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No. 2365

United States

Circuit Court of Appeals

For the Ninth Circuit.

Apostles.
(IN FOUR VOLUMES)

OLAF LIE, Master of the Norwegian Steamship
"SELJA," on Behalf of Himself and the
Owners, Officers and Crew of Said Steamship,
Appellant,

vs.

SAN FRANCISCO & PORTLAND STEAMSHIP
COMPANY, a Corporation, Claimant of the
American Steamship "BEAVER," Her En-
gines, etc.,

Appellee.

VOLUME II.
(Pages 353 to 768, Inclusive.)

Upon Appeal from the United States District Court
for the Northern District of California,
First Division.

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(Testimony of Captain Olaf Lie.)

Q. With your permission I will look it over for a day or so and ask you about it in the course of the case—study this data. A. Yes.

Mr. McCLANAHAN.—Then on redirect examination I introduce that in evidence.

Mr. DENMAN.—I do not believe you have got the right to introduce in evidence self-serving testimony. Put it in, if you want to.

Mr. McCLANAHAN.—I will ask to have it marked Libelant's Exhibit 13. [304—185]

(The paper is marked Libelant's Exhibit 13.)

Mr. DENMAN.—If this is put in on redirect examination I may desire to recall the witness, after having examined it at leisure, it involving mathematical calculations taking time to work out.

Mr. HENGSTLER.—Q. Captain, is this a literal version of the rule, of the International Rule No. 16 in the Norwegian language?

A. That is the latter part of the paragraph to avoid collision in a fog.

Mr. McCLANAHAN.—Q. Latter part of paragraph 16? A. Yes.

Mr. HENGSTLER.—Q. Is this the exact rule which you followed in maneuvering your steamer at the time of this accident? A. Yes, sir.

Mr. HENGSTLER.—I want to offer this in evidence. I will ask to have it marked Intervening Libelant's Exhibit "A."

(The paper is marked Intervening Libelant's Exhibit "A.")

Mr. DENMAN.—Q. Now, Captain Lie, you said

(Testimony of Captain Olaf Lie.)

this is the exact rule you followed. You mean by that that is the rule that you had in mind and intended to follow by the various courses and distances you have described—that is what you mean?

A. That is the rule I followed.

Q. You did not do anything that you have not already indicated in the testimony had?

A. I have already given it.

Q. You have given all that you have to say about what you did there—you have nothing further?

A. Yes, I think I have said all that I have to say, I think so.

Q. That is, it is a complete account of what you did in attempting to follow the rule?

A. Yes. I may say that is the latter part of the rule.

(An adjournment was here taken until to-morrow, June 15, at 10 A. M.) [305—186]

Thursday, June 14th, 1911.

[**Testimony of D. W. Dickie, for Libelant.**]

D. W. DICKIE, called for the libelant, sworn.

Mr. McCLANAHAN.—Q. How old are you, Mr. Dickie? A. I am 33.

Q. What is your residence?

A. Berkeley, California.

Q. What is your business?

A. Naval architect.

Q. How long have you been engaged in that business?

A. Since I was 16 years old; I went to work at the Union Iron Works in the various shops as an ap-

(Testimony of D. W. Dickie.)

prentice boy, and after four years I was put into the drawing-room for two years, and from there I went into the Government Service as a first-class draughtsman, and at the end of a year I was promoted to be chief draughtsman in the Navy Department at the Naval Constructor's office at Seattle, Washington; after staying there for two years I went to Great Britain and took a post-graduate course in Glasgow University two years in engineering and naval architecture, and in the vacations, in the meantime I was employed at the John Brown & Company—called the Clyde Bank Shipyard—on the *Coronel* and *Carmany*, Atlantic liners; after I left Great Britain I came back to this country and worked at the Newport News Shipbuilding Yards and Fore River Shipbuilding Company, and after coming to this coast have been associated with my father in business, and with my brother in business, we three being in the same office together. That covers the time from when I first went to work up to the present time.

Q. You know something about the facts of this case, do you, Mr. Dickie, from what I have told you?

A. From the evidence that you have submitted to me I made myself [306—187] familiar with the facts of the case, the two ships.

Q. You know the steamship "Beaver"?

A. Yes.

Q. Did you know the "Selja," what kind of a vessel she was? A. Yes.

Q. What kind of a ship was she?

A. The "Selja" was a tramp steamer with the

(Testimony of D. W. Dickie.)

engines amidships, and a hold at each end, of the standard type built in Great Britain about this time, representing probably what is known as the highest type of tramp that is doing business all over the world to-day.

Q. There is a standard for that class of vessels?

A. That vessel has grown by a process of elimination and assimilation into that form, so that now she represents a type of tramp which belongs to the advanced age in which we are living.

Q. I am now, Mr. Dickie, going to give you some data, first pertaining to the "Beaver," which you may bear in mind as you make answer to the questions which will follow, and I am going also to give you some data pertaining to the "Selja," which you may make the same use of. You will assume that this data which I am going to give you pertaining to both vessels is true, as far as you can. The speed of the "Beaver" on her trial trip is said to have been 17.6 knots per hour; her draught on the trial trip was 13 feet 9 inches forward and 17 feet aft, and her corresponding or mean displacement at those draughts was 4400 tons. Her indicated horse-power is 4448, and the revolutions on the trial trip, the maximum revolutions, were 86. You may assume also that her displacement fully loaded on a mean draught of 19 feet 6 inches would be 5950 tons. You may assume that the pitch of her propeller on her trial trip was 22 feet and 3 inches, and you may also [307—188] assume that that vessel's displacement on November 22d, 1910, on a draught of 16 feet 4½ inches was 4800

(Testimony of D. W. Dickie.)

tons. You may also assume that the "Beaver" was docked in August, 1910, and her bottom cleaned and painted. As to the length and beam of the "Beaver," do you know what they are? A. Yes.

Q. What are they?

A. Her length is 364 feet, and the beam is 47 feet.

Q. The beam over the plating?

A. The beam over the plating, yes.

Q. And the length between the barriers?

A. Length between perpendiculars.

Q. Now, as to the steamship "Selja," you may assume that her length between perpendiculars is 380 feet, her beam over the plating is 49 feet, her loaded draught 23 feet 6 inches, her displacement on loaded draught 10,275 tons. You may assume that her draught on her trial trip forward was 7 feet and 11 inches, and aft 15 feet, and that her corresponding displacement was 4660 tons. You may also assume that the pitch of her propeller is 16 feet 3 inches; that her maximum revolutions on her trial trip were 74, and her indicated horse-power at those revolutions 1989; that at the maximum revolutions on her trial trip her speed was 11 knots; you may also assume that her mean draught on leaving Yokohama, Japan, was 18 feet 2½ inches, and that she consumed in coal on the voyage up to the time of the collision on November 22, 780 tons; you may also assume that the revolutions of her engines under full speed on this voyage were 64.

Mr. DENMAN.—What is the purpose of this examination?

(Testimony of D. W. Dickie.)

Mr. McCLANAHAN.—Of what examination?
[308—189]

Mr. DENMAN.—Of the witness.

Mr. McCLANAHAN.—I have not examined the witness. I am giving him this data now.

Mr. DENMAN.—What is the purpose of this. You are giving certain data to your witness; what is the purpose of this examination?

Mr. McCLANAHAN.—I am preparing him for hypothetical questions.

Mr. DENMAN.—I mean in reference to what?

Mr. McCLANAHAN.—Relative to material matters involved in this case.

Mr. DENMAN.—I mean, what particular point.

Mr. McCLANAHAN.—That will develop.

Mr. DENMAN.—How can I follow it if I do not know what the purpose of it is?

Mr. McCLANAHAN.—I decline to answer more particularly than that.

Mr. DENMAN.—I protest against this method of carrying on a case by opposing counsel. I am simply trying to find out for what purpose this mass of data is given to the witness. It is absolutely impossible to follow the examination intelligently, with a mass of data of this kind, unless the purpose of the examination be told to counsel. We claim the right of counsel to know what the purpose of the testimony is.

Mr. McCLANAHAN.—Q. Mr. Dickie, have you made some models, rough models of the “Beaver” and the “Selja”? A. Yes.

Q. Are they here in court? A. Yes.

(Testimony of D. W. Dickie.)

Q. Will you please produce them?

A. There is the model of the "Beaver" and there is the model of the "Selja" (producing).

Q. They are drawn to a scale, are they?

A. They are drawn to a [309—190] scale, yes.

Mr. McCLANAHAN.—I will introduce the model of the "Beaver" as Libelant's Exhibit 14, and the model of the "Selja" as Libelant's Exhibit 15.

(The models are marked respectively Libelant's Exhibits 14 and 15.)

Q. Referring now to Exhibit 14, Mr. Dickie, which is the model for the "Beaver," I see there is a line drawn across the bow of the model. What is the distance from the stem of the "Beaver" to that line on the port side? A. 18 feet.

Mr. DENMAN.—May I now inquire the purpose of asking these questions, what you expect to prove by the witness by this?

Mr. McCLANAHAN.—My answer is the same.

Mr. DENMAN.—That is, you decline to state it; is that it?

Mr. McCLANAHAN.—Further than I have stated, that this witness is being examined as an expert on matters material to this case.

Mr. DENMAN.—I know, but what are you going to prove by him—what particular thing?

Mr. McCLANAHAN.—You will hear very soon.

Mr. DENMAN.—I cannot follow, cannot prepare my mind for this examination unless I know what you are after in putting in all this data that you have heretofore stated. I presume you have some pur-

(Testimony of D. W. Dickie.)

pose, and we are entitled to know in this case, as we are in any other case, what the purpose of counsel is.

Mr. McCLANAHAN.—Well, I cannot help you further than to repeat what I have said.

Mr. DENMAN.—Yes, you can.

Mr. McCLANAHAN.—Q. You say 18 feet on the port side? A. Yes.

Q. How far is it from the stem to the marking on the starboard [310—191] side? A. 10 feet.

Q. Mr. Dickie, if the “Beaver” on her course out through the Golden Gate passes the North Heads at 1:37 P. M., and Red Buoy No. 2 at 1:45 P. M., without changing the revolutions of her engines, the distance between these points being two knots, and proceeds under the same conditions until 3:10 P. M., how far would she have travelled and at what rate of speed from 1:37 P. M. to 3:10 P. M.?

A. The distance traveled would be $23\frac{1}{4}$ knots, and the rate of speed would be 15 knots per hour.

Q. If the “Beaver” traveled $23\frac{1}{4}$ nautical miles from 1:37 P. M. to 3:10 P. M., and her speed was 15 knots during that time, and assuming that the revolutions of her engines were 84 during that time, and the pitch of her propeller 22 feet 3 inches, what must have been the slip of her propeller?

A. 18.67 per cent.

Q. Under the same statement of fact as just given you in the last question, except you will assume that her engines were making 77 revolutions instead of 84 revolutions, what would be the slip of her propeller? A. 11.28 per cent.

(Testimony of D. W. Dickie.)

Q. If the "Beaver," in passing out through the Golden Gate, passes the North Heads at 1:37 P. M., and Red Buoy No. 2 at 1:45 P. M., without changing the revolutions of her engines, and under the same conditions continues her speed for a total distance of $23\frac{1}{4}$ knots measured from the North Heads, would it be possible that her engines were making only 77 revolutions during the run of $23\frac{1}{4}$ knots if her slip was more than 12 per cent?

A. It would not be possible.

Q. Would it be possible that her speed was only 11 knots? [311—192] A. No, sir.

Q. If the "Beaver," in passing out through the Golden Gate, passes the North Heads at 1:37 P. M., and Red Buoy No. 2 at 1:45 P. M., without a change in the revolutions of her engines, and under the same conditions continues for a total distance of $23\frac{1}{4}$ knots measured from the North Heads, would it be possible that her engines during the run were making 77 revolutions with a slip of 25 per cent?

A. No, sir.

Q. If the "Beaver's" speed is 15 knots per hour, with 84 revolutions, and the slip of her propeller is 18.67 per cent, what would be the speed of the vessel at the end of five minutes after the revolutions had been reduced to 76? A. 13.572 knots per hour.

Q. If the "Beaver's" speed is 15 knots with 84 revolutions and a slip of 18.67 per cent, what would be the vessel's speed if the revolutions are reduced to 77? A. 13.751 knots per hour.

Q. If the vessel's speed at 77 revolutions is 13.751

(Testimony of D. W. Dickie.)

knots per hour, what would be her speed at the end of five minutes if the revolutions are reduced from 77 to 76? A. 13.572 knots per hour.

Q. If the "Beaver's" engines are making 77 revolutions per minute, would it be at all practicable to change them to 76? A. Hardly.

Q. To what extent would a change of one revolution from 77 to 76 affect the "Beaver's" speed in an hour, with a slip of 18.67 per cent?

A. 0.179 knots per hour.

Q. If the "Beaver" was making 13.572 knots per hour, and put her [312—193] engines full speed astern, how long would it be before her headway would be stopped? A. Two minutes and 5 seconds.

Q. How far would the vessel travel during the two minutes and five seconds? A. 1295 feet.

Q. If the "Beaver" is going 13.572 knots per hour, and puts her engines full speed astern, what would be her speed through the water after traveling 900 feet from the point where her engines had been reversed? A. About 6.81 knots.

Q. Per hour? A. Per hour.

Q. Mr. Dickie, if the "Beaver" is making 13.572 knots per hour through the water, and without reducing speed changes her helm to starboard, and after her head under the starboard helm has swung one-half point to port her engines are then put full speed astern, and then her helm is put hard-a-port, would the vessel under these maneuvers be swinging rapidly to starboard at the end of one minute, or one minute and a half, after her helm had been put hard-

(Testimony of D. W. Dickie.)

a-port? A. No, sir.

Q. Would it make any difference if she was only making 10 knots? A. It would not.

Q. If the "Beaver" is said to have made 17.6 knots on her trial trip, with 86 revolutions, what would have been the slip of her propeller?

A. 6.794 per cent.

Q. What would have been her speed with 77 revolutions? A. 15.76 knots.

Q. Per hour? A. Per hour.

Q. If the slip of her propeller was 6.794 per cent, making 17.6 knots with 86 revolutions, what would the slip have to be if at 77 revolutions the vessel was only making 11 knots?

A. 34.97 per cent. [313—194]

Q. Considering that the "Beaver" had been docked four months before November 22d, 1910, and at the time had had her bottom cleaned and painted, and assuming that on November 22d, 1910, with 77 revolutions the vessel was only making 11 knots, what must have been the sea conditions on that day to account for the difference in the slip when the speed under trial trip conditions would be 15.76 knots at 77 revolutions, and on November 22d, 1910, was only 11 knots at 77 revolutions?

A. The difference of 28.18 per cent could not be accounted for except by a hurricane, in a ship of the type of the "Beaver."

Q. Could such a percentage of difference in the slip be possibly accounted for by a high, long, rolling swell in a calm? A. No, sir.

(Testimony of D. W. Dickie.)

Q. Assuming that under trial trip conditions, with 86 revolutions, the "Beaver" made 17.6 knots per hour, would it be possible that her speed was only 11 knots if the revolutions were 77 and the slip 25 per cent? A. No, sir.

Q. What would be the difference in the speed of the "Beaver" between 77 and 76 revolutions on a 25 per cent slip? A. .1648 knots per hour.

Q. What would that difference amount to in feet at the end of five minutes? A. 83.45 feet.

Q. What would be the "Beaver's" speed at 77 revolutions with a 25 per cent slip?

A. 12.69 knots.

Q. What would it be on the same revolutions with a 20 per cent slip? A. 13.52 knots per hour.

Q. To what extent would a change of one revolution from 84 affect [314—195] the "Beaver's" speed in one hour, with a slip of 18.67 per cent?

A. .179 knots per hour.

Q. Take under trial trip conditions with an indicated horse-power of 4448, would it be possible for the "Beaver" to make 17.6 knots per hour through the water?

A. Not at 4400 tons displacement, corresponding to a mean draught of 15 feet $4\frac{1}{2}$.

Q. What would be the possible maximum speed of the "Beaver" through the water with 4448 indicated horse-power?

A. At 4400 tons displacement, which you gave me, it would be 16.42 knots in sea conditions, and 16.98 in smooth water with an absolutely clean bottom.

(Testimony of D. W. Dickie.)

Q. Suppose that the displacement was 4800 tons what would your answer be?

A. At 4800 tons the vessel would make 16.13 knots per hour at sea conditions, and 16.65 with an absolutely clean bottom and a smooth sea.

Q. Assuming that the "Beaver" with 84 revolutions traveled $22\frac{1}{2}$ miles in one and a half hours, what would have been the slip of her propeller?

A. 18.67 per cent.

Q. Mr. Dickie, how long would it take the "Selja" to stop by reversing at full speed if she was making three knots? A. One minute and 26 seconds.

Q. How far would the "Selja" travel before coming to rest? A. 220 feet.

Q. How long would it take the "Selja" to stop by reversing at full speed if she was making 6 knots per hour? A. 2 minutes and 44 seconds.

Q. How far would the "Selja" travel before coming to rest under those conditions? A. 782 feet.

Q. How long would it take the "Selja" to come to rest, making [315—196] three knots from the time the engines were stopped but not reversed?

A. Nine minutes, 52 seconds, about.

Q. How far would she travel in that time?

A. About 1,819 feet.

Q. If the "Selja" was making three knots and her engines were stopped but not reversed, and she would travel 9 minutes and 52 seconds before coming to rest, what speed would she be going at the end of 5 minutes after her engines had been stopped?

A. Three-quarters of a knot.

(Testimony of D. W. Dickie.)

Q. If the "Selja" was going at the rate of three-quarters of a knot under stopped engines, and her engines were then reversed at full speed, how soon would she overcome her headway?

A. About 21 seconds.

Q. Under these circumstances what would be the speed of the "Selja" astern at the end of one minute? A. About 1.33 knots per hour.

Q. The "Selja's" speed, Mr. Dickie, was logged and found to be six knots on 40 revolutions of her engine; what would be her slip? A. 6.46 per cent.

Q. The "Selja's" engines, Mr. Dickie, at 3 o'clock are making 40 revolutions and remain at 40 until 3:05, when they are put at 20, and remain at 20 until 3:10, when they are stopped, and remain stopped until 3:15. What would be the distance traveled by the vessel from 3 o'clock to 3:15, with a slip of 6.46 per cent? A. About 6,270 feet.

Q. If the "Selja" with her engines full speed astern was making 3.33 knots astern at the moment of impact between the "Selja" and the "Beaver," and the angle of the two boats at that moment measured from their center lines was between 70 and 90 degrees, [316—197] and the markings on the "Beaver's" port bow show that she entered the "Selja" for a distance of 18 feet, and on the starboard bow for a distance of 10 feet, and these markings show an angle of 59 degrees, how is the difference between the angle of approach at the moment of impact and the angle shown by the markings on the "Beaver's" bow to be accounted

(Testimony of D. W. Dickie.)

for? A. By the stern motion of the "Selja."

Q. Could it be accounted for in any other way under the facts that I have stated to you? A. No.

Q. If the "Selja" is at rest and puts her engines full speed astern, what would be the distance she would travel in one minute from the point where she was at rest? A. About 100 feet.

Q. What would be her rate of speed at the end of one minute? A. About 2.0065 knots.

Cross-examination.

Mr. DENMAN.—Q. As I understand, your estimates, theoretical estimates of the rate of speed of the "Beaver" are based on the fact that she traveled some 23 and some odd knots from North Head; that is correct?

A. No. The estimates of speed and everything are based on the builders' trial trip conditions as stated by Mr. McClanahan.

Q. But, as I understand it, the basis of all these questions that she had covered 23 knots during the period under consideration—that is correct, isn't it?

A. No. Only two questions, I think.

Q. Only two questions on that?

A. Yes, about two questions.

Mr. McCLANAHAN.—Mr. Dickie states the distance travelled as 23.25 knots. [317—198]

Mr. DENMAN.—Q. Have you ever been on the "Beaver" and maneuvered on her?

A. How do you mean?

Q. Have you ever maneuvered on her, handled her? A. No.

(Testimony of D. W. Dickie.)

Q. Have you ever been on the "Selja," have you handled the "Selja"? A. No.

Q. The models of the two ships are the models that you have in front of you? A. Yes.

Q. When you are speaking of the slip—what do you mean by the word "slip"?

A. The slip per cent is the division of two numbers, one of which is the difference between the speed of the propeller working in a solid nut or in a solid screw—

Q. I understand.

A. (Contg.) And the speed of the ship through the water.

Q. That is a constant factor.

A. That number divided by the speed of the propeller in the solid nut.

Q. That is a constant factor with the ship always, isn't it? That is a given slip under all conditions?

A. No.

Mr. McCLANAHAN.—What slip is that?

A. No. There is no standard slip to a ship.

Mr. DENMAN.—Q. That factor is always at work, that is to say, theoretically—

A. The factor is always at work.

Q. On the vessel and every time the screw turns there is that difference? A. There is a slip.

Q. There is a slip. A. Yes.

Q. As far as that factor is concerned, that is constant? A. No, that factor is not constant.

Q. Do you mean to say the factor of difference between what she goes, what the screw goes through

(Testimony of D. W. Dickie.)

the solid and what the vessel [318—199] goes through the water at a given number of revolutions is not a constant factor? A. No, sir.

Q. What would make it vary?

A. It will vary with the speed of the ship.

Q. Vary with the speed of the ship? A. Yes.

Q. I mean to say that that variation is a constant determinable thing?

A. It is a determinable thing, but it has a variation.

Q. It is a determinable factor? A. Yes.

Q. It varies on a scale that can be computed and determined? A. Yes, sir.

Q. That varies, of course, with the shape of the hull.

A. Varies with the shape of the hull, speed of the ship, pitch of the propeller, the diameter of the propeller, the weight of the propeller, weight factor—several mathematical variations that come in there.

Q. Now, of course, you have made all these calculations off those? A. Yes.

Q. Will you kindly prepare between now and the next time, or bring here, all of the sheets on which you have made the calculations with the actual additions, subtractions and multiplications.

A. That is impossible. The multiplications are made on the slide rule; you will find them all on the slide rule.

Q. The slide rule does not indicate that. I want that. I won't find what you did on the slide rule.

A. No.

(Testimony of D. W. Dickie.)

Q. The Court would not understand that from the slide rule. Prepare and work out for me each one of these problems, so that I can examine you when we come here another time; prepare them for me so that I can go over them and be able to intelligently cross-examine you. At the present time I do not feel capable of [319—200] doing that.

Mr. McCLANAHAN.—Q. How long will it take you, Mr. Dickie, to produce the data or the figures which Mr. Denman calls for?

A. About four weeks, roughly speaking. I might be able to do it in less time.

Mr. DENMAN.—Q. How long did it take you to prepare these figures that you brought here, Mr. Dickie? A. About four or five months.

Q. Been pretty constantly at work on it, haven't you? A. Off and on.

Q. A great deal of time devoted to it?

A. Considerable time. We have had to write for certain data and then after we would get that data we would work that out, and then find out there would be some part missing, and then we would have to write for that back again, and get it, so that we were working at intervals.

Q. This is data with regard to the "Beaver"?

A. With regard to the "Beaver" and the "Selja."

Q. Shape of the hull and all that sort of thing?

A. Not the shape of the hull; we got that from the testimony.

Q. What was this data?

A. This is data about the stopping and backing

(Testimony of D. W. Dickie.)

and reversing and one thing and another.

Q. You got that from other places. A. Yes.

Q. From Newport News?

A. No, no. The basis of this stopping, backing and reversing is on paper, or at least, the first record we have of it is from a paper of Mr. Hecht before the Institution of Naval Architects in London in 1888. We took Mr. Hecht's paper; likewise the discussion on the paper by Mr. McFarland Gray, another eminent mathematician, and applied it to the "Beaver" and the [320—201] "Selja." This showed the paper to be remarkably close. Now, in case a doubt might arise in the matter, my father, who is with us in the office, thought it would be wise to get considerable data to back up our calculations. This caused us to write to the British Board of Trade, who referred us to the Association for the Advancement of Science in Great Britain, and from their original records we went back as far as 1867, and took and found all the original records upon which Mr. Hecht's mathematics were based. Then we took data which we received through a friend of ours,—two friends of ours who are naval constructors in the United States Navy, on American warships, and put that all through the formulas; then we took merchant ships such as we could get, and we put those through the formulas in order to be absolutely sure that we were right. It has taken a great deal of time and a great deal of labor, but we have come to the point where we think it is right.

Q. Now, have you tried it on any ship since you

(Testimony of D. W. Dickie.)

have done this?

A. You mean, have I tried a ship to see if she would back in the time?

Q. Yes. A. No, I have not.

Q. Have you taken out any ship of the type of the "Selja" and tried her?

A. You mean tried her, tried the mechanical part of it?

Q. Yes. A. No.

Q. Or the "Beaver"?

A. No, we have the data though for other ships of that type taken by trained experts.

Q. Can you supply us with all that data?

A. If you wish it, yes. [321—202]

Mr. McCLANAHAN.—Q. Have you got the data with you?

A. I have, but I do not believe it is in such shape.

Mr. DENMAN.—Q. Bring it up to my office, Mr. Dickie.

Mr. McCLANAHAN.—Why not take it here. He will give it to you now.

Mr. DENMAN.—Mr. Dickie said he has not it here.

A. I have it here, but I do not think it is in such neat shape as I would like to have it.

Mr. McCLANAHAN.—We have no objection to your seeing the data.

Mr. DENMAN.—Of course, we are entitled to it.

Mr. McCLANAHAN.—But your request for figures covering the labor of four weeks, it seems to me, Mr. Denman, is wholly out of reason.

(Testimony of D. W. Dickie.)

Mr. DENMAN.—It may be; it might take four weeks to cross-examine this witness on these matters.

Mr. McCLANAHAN.—And at the end of that time you may not be able to cross-examine him.

The WITNESS.—Yes, we have the data here with us, but it is not in such shape that it could be examined into by anyone but an expert. I can put this into such shape that it be examined.

Mr. DENMAN.—Please do so.

Mr. McCLANAHAN.—Q. Mr. Dickie, can you put that in such shape as would be intelligible to an expert here?

A. Yes, I believe I can. It would depend on the expert largely.

Q. Who do you think could intelligently examine the data? A. I do not know.

Mr. DENMAN.—Is there any expert in town that has not been retained on your side of the case?

Mr. McCLANAHAN.—We have not exhausted the field. [322—203]

Mr. DENMAN.—Q. With whom have you discussed this matter, Mr. Dickie?

A. I have discussed it with my father and Mr. Heynemann.

Q. Mr. Heynemann; who is Mr. Heynemann?

A. Mr. Heynemann was formerly with the Fulton Iron Works; he is now employed with the Goldschmidt Thermit Company.

Q. Discuss it with any other experts? A. No.

Q. All right, Mr. Dickie. Prepare these matters

(Testimony of D. W. Dickie.)

for me, if you will, and then I will cross-examine you at some other time. I will resume the cross-examination when I have had an opportunity to examine this.

Mr. McCLANAHAN.—Then we are through with him for the present.

Q. Mr. Dickie, just one question. You were asked whether you had ever been on the “Selja” or the “Beaver”; the fact that you have not would not make any difference in your calculations respecting these things? A. None whatever.

Mr. DENMAN.—Q. Have you ever navigated any vessel at all, yourself?

A. Only of a small calibre.

Q. What do you mean by “small calibre”?

A. From 75 feet down.

Q. What do you mean by that, sailing vessels?

A. No; gasoline engine vessels.

Q. You never have handled a large ship yourself at sea? A. No, sir.

Q. By the way, would you care to qualify yourself as a navigator of ships? A. No, sir.

Q. One question about the slip and we will be through. We were speaking of the determinable factor in a slip; that is to say that is determinable from the physical construction of the ship and her given rate of speed. A. Yes. [323—204]

Q. There is another factor which you include in the slip which comes from external conditions, is there not? A. Yes.

(Testimony of D. W. Dickie.)

Q. That is the wind, weather and that sort of thing?

A. Yes—only as they affect the speed of the ship. You have there what we call a thrust deduction and augment of resistance; the one is due to the ship drawing after her a film of water about two feet thick, and the other one is due to the propeller working in this film of water.

Q. Of course if the propeller gets out of the water that has a material effect on it.

A. Yes, that has a material effect.

Q. On the speed of your vessel.

A. Destroys the speed of your vessel.

Q. At how many feet draught of water would the “Beaver’s” propeller be exposed in a quiet sea?

A. About 17 feet—the propeller, the diameter of the propeller has not been given in the testimony so far. It has not been brought out, but we know it apart from that; so I am making that statement reservedly.

Mr. McCLANAHAN.—Q. What is the diameter as you have it?

A. The diameter of the propeller of the “Beaver” ought to be about 17 feet.

Q. Do you know what the propeller area of that propeller would be? A. About 92 feet.

Mr. DENMAN.—Q. So you will state when she was drawing 17 feet of water her propeller would be exposed?

A. Just the tip of it. You could see just the top of it. You see if she is drawing 17 feet of water

(Testimony of D. W. Dickie.)

and you have 17 feet of propeller, then it has that much clearance at the bottom that the [324—205] thickness of the plate—you would have by figuring up the 17 feet at the top say about two and a half the clearance between the tip of the plate and what you call the sole piece of the stern post, and the sole piece on that stern post, I should judge, would be about four inches, may be bigger than that; may be 6 inches thick; it would depend on the width of it.

Mr. DENMAN.—That will be all for the present, Mr. Dickie.

[Testimony of L. Heynemann, for Libelant.]

L. HEYNEMANN, called for the libelant, sworn.

Mr. McCLANAHAN.—Q. How old are you, Mr. Heynemann? A. I am 53.

Q. You live here in San Francisco, do you?

A. Yes, sir.

Q. And what is your business?

A. At the present time I am the representative of the Goldschmidt Thermit Company.

Q. What is their business?

A. Theirs is a business of welding railroad iron and other material.

Q. How long have you been with them?

A. About four years.

Q. Prior to that what was your business?

A. Prior to that I was secretary of the Fulton Iron Works.

Q. How long were you with the Fulton Iron

(Testimony of L. Heynemann.)

Works? A. About 13 years.

Q. What were your duties while connected with the Fulton Iron Works?

A. My duties were rather varied. I had, first of all, the duties of the secretary of any corporation; then I had largely to look after the money end of the concern, and made [325—206] estimates for the repair of vessels, and exercised a general supervision of the works.

Q. Prior to the connection with the Fulton Iron Works, what did you do?

A. I was with the different iron works here. I was with the Union Iron Works and with the National Iron Works, with the Honolulu Iron Works.

Q. While with these iron works did you have anything to do with the construction of ships?

A. Not very much with the construction, no.

Q. What was your duty?

A. More or less with the repair of ships.

Q. Have you had any training that would fit you as an expert to determine various matters connected with the machinery of a ship, her speed, her ability to make speed?

A. Yes. I do not like the word "expert" very much, but I will state this, that I received my education at the Royal Polytechnic School of Hanover, Germany, and therefore I feel myself fitted to answer the questions proposed.

Q. By the questions proposed, you mean the questions that I intend to ask you?

(Testimony of L. Heynemann.)

A. That you intend asking me.

Q. You know what those questions are?

A. I know about what they are. They are more or less mathematical; that is to say, it takes some knowledge of mathematics to be able to answer these questions.

Q. Any other knowledge required to answer these questions?

A. Well, yes, I should say general experience in the business.

Q. What business?

A. In the business relating to vessels.

Q. Have you had that general experience?

A. I have had a general experience, yes.

Q. What does it consist of?

A. Well, as I said before, my duty at [326—207] the Fulton Iron Works was making estimates on vessels; that was one part of my duty. And in that way I acquired a knowledge of general conditions in this business.

Q. The general conditions which you refer to as necessary to answer these questions?

A. Yes, sir.

Q. How long did you so make estimates for vessels with the Fulton Iron Works?

A. Nearly all the time that I was there.

Q. That would be nearly for 13 years?

A. Yes. I generally made these estimates in conjunction with the marine superintendent; we would go on board together, as a rule.

(Testimony of L. Heynemann.)

Mr. DENMAN.—Does that finish the qualifications?

Mr. McCLANAHAN.—Yes.

Mr. DENMAN.—Q. Mr. Heynemann, how many vessels have you constructed in that time?

A. None.

Q. Have you ever had any business connection with the Fulton Iron Works which required the alteration of speed of a vessel? A. Yes, sir.

Q. What vessel was that?

A. Well, I could not tell you; there were quite a number of vessels where the propeller was altered.

Q. The propeller was translated? A. Yes, sir.

Q. But you never have had a problem presented to you to determine the construction of a new vessel?

A. No, sir.

Q. Nor the speed she would make?

A. Not of a new vessel.

Q. Have you ever been a navigator?

A. No, sir.

Q. Do you know anything about navigation?

A. I would not say I know nothing about it, but I have had no practical experience in navigation.

Q. Let me ask you a theoretical question to inform me personally [327—208] more than to qualify you. Suppose a vessel has a draught of 14 feet 3 inches forward, and a draught aft of 18 feet 6 inches, giving you a mean draft of 16 feet 4½ inches? A. Yes.

Q. And she develops a certain speed with a certain number of revolutions? A. Yes, sir.

(Testimony of L. Heynemann.)

Q. Now, presume you reverse that and you have 18 feet forward and 14 feet 3 aft. A. Yes.

Q. With the same mean draught would she develop the same speed? A. No, sir.

Mr. DENMAN.—That is all.

Mr. McCLANAHAN.—Q. I am going to give you certain data, which you may assume to be true. Of course, you know something about the facts of this collision? A. Yes, sir.

Q. The collision between the “Beaver” and the “Selja,” in which the “Selja” was sunk?

A. Yes, sir.

Q. As to the “Beaver” these facts to be assumed are as follows: On her trial trip, with a draught forward of 13 feet 9 inches, and aft 17 feet—

A. (Intg.) Will you permit me, Mr. McClanahan, to interrupt you for a moment? I would like to get my own papers to see how that compares with the data that I have been working on. (Producing a paper.)

Mr. DENMAN.—You have a paper there?

A. Well, I have certain questions here.

Q. They are the questions prepared by Mr. McClanahan? A. Yes.

Q. And you have prepared answers to them?

A. I have certain notes on here that are more or less private.

Q. Well, this is a memorandum that you intend to answer from.

A. Well, there are certain answers here that are

(Testimony of L. Heynemann.)

not correct; [328—209] therefore I do not want to give it up.

Q. Well, if that is a memorandum from which you are going to answer, the law will permit me to examine it.

A. Well, this is the memorandum—examine it if you like.

Q. You say these answers are not correct?

A. There are certain answers that have to be altered.

Q. When did you discover the errors in those?

Mr. McCLANAHAN.—That is a matter of cross-examination, Mr. Denman.

Mr. DENMAN.—This is for the purpose of examining him on this exhibit.

Mr. McCLANAHAN.—He has not produced any exhibit.

Mr. DENMAN.—He just said he had a paper; the evidence shows that.

Mr. McCLANAHAN.—You have interrupted me in the line of examination which I was pursuing.

Mr. DENMAN.—I am following the orderly procedure in the examination of an expert.

Mr. McCLANAHAN.—It is the disorderly procedure.

Mr. DENMAN.—The orderly procedure in the examination of an expert is—

Mr. McCLANAHAN.—Are you trying to teach me what I ought to do?

Mr. DENMAN.—I hope to teach you before I get through. The orderly procedure—

(Testimony of L. Heynemann.)

Mr. McCLANAHAN.—Well, if I am to be taught, I want to choose my professors.

Mr. DENMAN.—You will find when the court comes to rule on this that in this case there is one attorney that is right and [329—210] one that is wrong, as is often in a case. The orderly procedure in the examination of an expert is, after the attorney that produces him has finished with qualifying questions, that opposing counsel may examine the expert on qualifying questions. That has been done here. Now, let me take the exhibit.

Mr. McCLANAHAN.—Just wait a minute.

Mr. DENMAN.—Let me have the memorandum you refer to.

Mr. McCLANAHAN.—Just wait a minute before showing him your private papers. Let the record show that the orderly procedure so called by Mr. Denman has been complied with; he has examined the witness as an expert, or cross-examined him, and has submitted the witness to his examination. I am now in the midst of or about to commence my examination; therefore, we object to any production of data not yet called for or hinted at, and I would like to have the stenographer read my question which has caused the interruption.

(Thereupon the last question was read by the Reporter.)

Mr. DENMAN.—Read the answer to it, of the witness.

(The answer of the witness was read by the Reporter.)

(Testimony of L. Heynemann.)

I am entitled to see the paper.

Mr. McCLANAHAN.—You are not entitled to it until the cross-examination.

Mr. DENMAN.—I am entitled to it at the same time, at once.

Mr. McCLANAHAN.—He has not taken up anything.

The WITNESS.—I do not need to take it up at all.

Mr. McCLANAHAN.—That is settled. Read the question and answer, Mr. Reporter.

(The Reporter reads the last question and answer.) [330—211]

Q. Now, Mr. Heynemann, you can produce, if you wish, the data referred to by you and see if it checks up with my question. The “Beaver’s” draught forward on her trial trip was 13 feet 9 inches, and 17 feet aft. A. Yes.

Q. Her corresponding displacement on the trial trip, with that draught, was 4400 tons; on her trial trip she is said to have made 17.6 knots per hour on 86 revolutions of her engines, and an indicated horsepower of 4448. A. Yes.

Q. The pitch of her propeller on the trial trip was 22 feet 3 inches. The “Beaver’s” displacement fully loaded is 5950 tons, on a mean draught of 19 feet 6 inches. Her displacement on November 22d, 1910, was 4800 tons, on a mean draught of 16 feet 4½ inches; the “Beaver” was docked and her bottom cleaned and painted in August, 1910. So much for the “Beaver.” Now for the “Selja.” The length of the “Selja” between perpendiculars is 380 feet,

(Testimony of L. Heynemann.)

her beam over the plating 49 feet; her loaded draught 23 feet 6 inches; her displacement at the loaded draught 10275 tons; her draught forward on the trial trip 7 feet 11 inches; her draught aft on the trial trip 15 feet, and her corresponding displacement 4660 tons. The pitch of the "Selja's" propeller is 16 feet 3 inches; her maximum revolutions on the trial trip 74. Her indicated horse-power at those revolutions on the trial trip 1989. The speed of the "Selja" at her maximum revolutions on the trial trip was 11 knots. Her mean draught was on leaving Yokohama 18 feet 2½ inches, and the coal consumed on the voyage up to the time of the collision was 780 tons; and the revolutions on the voyage from Yokohama at full speed to this port was 64.

A. Yes.

Q. Now, Mr. Heynemann, if the "Beaver" on her course out through [331—212] the Golden Gate passes the North Heads at 1:37 P. M., and Red Buoy No. 2 at 1:45 P. M., without changing the revolutions of her engines, the distance between these two points being two knots, and proceeds under the same conditions until 3:10 P. M., how far would she have travelled and at what rate of speed from 1:37 P. M. to 3:10 P. M.? First, how far would she have travelled?

A. Well, now, the total distance is what? Have you got that?

Q. The distance between the two points is two knots. I ask you what the total distance the vessel would have travelled between 1:37 P. M. and 3:10

(Testimony of L. Heynemann.)

P. M. is. You say you have figured that out already? A. I have figured it.

Q. To save time will you please refer to the figures that you have made on that and give me the answer.

A. I remember the answer. The answer is—it will be at the rate of 15 knots.

Q. And what would be the distance travelled?

A. I think it was 23 knots. (The witness refers to a paper.)

Mr. DENMAN.—Q. What is this paper?

Mr. McCLANAHAN.—Q. 23 knots and what?

A. 23.28.

Mr. DENMAN.—Q. You are answering from a paper? A. I am answering from this paper.

Q. What is that paper?

A. This paper is the list of questions.

Q. Is that the paper that you referred to a few minutes ago that had the erroneous answers in?

A. Yes.

Q. In other words, there were mistakes in some of the answers there? A. Yes, sir.

Q. How long had you been working on this before you found out the mistakes?

A. I had not been working on those particular questions at all until I looked at them again. [332—213]

Q. Well, how could you look at them again if you had not worked at them at all?

A. You mean how long I originally worked on them?

(Testimony of L. Heynemann.)

Q. Yes. A. I could not tell you, I don't know.

Q. Two or three months, was it not?

A. You mean on the entire list of questions?

Q. Yes.

A. I can say that this list was presented to me some time in February. That is, not this list but—no—this list was presented to me, I do not think it was more than two or three weeks ago; may be two weeks ago.

Q. You went to work and got certain answers?

A. Yes.

Q. Then you found you were mistaken?

A. Yes. I found in the case of several I was wrong, yes.

Q. Who called your attention to that?

A. Nobody.

Q. But you— A. I just went over the figures.

Q. Did you compare your figures with Mr. Dickie's? A. Yes.

Q. You discovered they were wrong then, didn't you? A. No.

Q. Did his figures differ from yours? A. Yes.

Q. Was he wrong or were you wrong?

A. I think that—well, are you referring to the questions where we discovered errors?

Q. Yes. A. We were both wrong.

Q. How long have you been working on the case yourself?

A. Since last February, off and on, I have been for several months.

Q. When did you discover that you both had

(Testimony of L. Heynemann.)

made errors in the calculations?

A. When we compared them.

Q. How long ago was that?

A. Well, that—we have been comparing these questions right along.

Q. When did you discover the errors, I mean? Since you received [333—214] that paper, was it not? A. Yes, since I received that paper.

Q. That was within the last three weeks, was it not? A. Yes, within the last three weeks.

Q. You are sure you are right now?

A. Yes, within the last two weeks.

Q. You are sure you are right now? A. Yes.

Q. Compare it with anybody else? A. No.

Mr. McCLANAHAN.—Q. Mr. Heynemann, you say the “Beaver” travelled 23.28 knots?

A. 23.25.

Mr. DENMAN.—I ask you not to change any data, Mr. Heynemann.

Mr. McCLANAHAN.—You can change what you please on that, Mr. Heynemann.

Mr. DENMAN.—Simply call it off the paper, and do not change the marks, Mr. Heynemann.

A. 23.25. I have it here.

Mr. McCLANAHAN.—Q. 23.25.

A. Yes, instead of 23.28.

Q. If the “Beaver” travelled 23.25 nautical miles from 1:37 P. M. to 3:10 P. M., and her speed was 15 knots during that time, and assuming that the revolutions of her engines were 84 during that time, and the pitch of her propeller 22 feet, 3 inches, what

(Testimony of L. Heynemann.)

must have been the slip of her propeller?

A. 18.67.

Q. Per cent? A. Per cent.

Q. Under the same statement of facts as I have just given you in the last question, excepting we still assume that her engines were making 77 revolutions instead of 84 revolutions, what would the slip of her propeller be? A. 11.28 per cent.

Mr. DENMAN.—Q. Are you answering those questions from a calculation that you are now making, or are you simply refreshing [334—215] your memory as to the results you obtained on a prior calculation by the use of that memorandum?

A. With reference to these answers, I can leave my paper face down and by the aid of a diagram that I have here I can answer all these questions in relation to the slip and revolutions and horse-power, without referring to the paper.

Mr. McCLANAHAN.—Q. You are simply using the paper to save time? A. That is all.

Mr. DENMAN.—All right. Go ahead.

Mr. McCLANAHAN.—Q. Your answer to the last question was 11.28 per cent?

A. 11.28 per cent.

Q. If the "Beaver," in passing out through the Golden Gate, passes the North Heads at 1:37 P. M., and Red Buoy No. 2 at 1:45 P. M., without changing the revolutions of her engines, and under the same conditions continues her speed for a total distance of 23.25 knots measured from the North Heads, would it be possible that her engines were making

(Testimony of L. Heynemann.)

only 77 revolutions during the run of 23.25 knots, if her slip was more than 12 per cent? A. No, sir.

Q. Would it be possible that her speed was only 11 knots? A. No.

Q. If the "Beaver," in passing out through the Golden Gate, passes the North Heads at 1:37 P. M., and Red Buoy No. 2 at 1:45 P. M., without a change in the revolutions of her engines, and under the same conditions continues for a total distance of 23.25 knots measured from the North Heads, would it be possible that her engines during the run were making 77 revolutions with a slip of 25 per cent?

A. No, sir.

Q. If the "Beaver's" speed is 15 knots per hour, with 84 revolutions, [335—216] and the slip of propeller as you have stated it, 18.67 per cent, what would be the speed of the vessel at the end of five minutes after the revolutions had been reduced to 76?

A. 13.572 knots.

Q. If the "Beaver's" speed is 15 knots per hour with 84 revolutions, and the slip of her propeller is 18.67 per cent, what would be the speed of the vessel if the revolutions are reduced to 77? A. 13.751.

Q. If the vessel's speed at 77 revolutions is 13.751 knots, what would be her speed at the end of five minutes if the revolutions are reduced from 77 to 76?

A. 13.572.

Q. If the "Beaver's" engines are making 77 revolutions per minute, would it be at all practicable to change them to 76? A. No, hardly practicable.

Q. To what extent would a change of one revolu-

(Testimony of L. Heynemann.)

tion from 77 to 76 affect the "Beaver's" speed in an hour, with a slip of 18.67 per cent?

A. 0.179 knots per hour.

Q. If the "Beaver" was making 13.572 knots per hour, and put her engines full speed astern, how long would it be before her headway would be stopped?

A. 125 seconds.

Q. How far would the vessel have traveled during the 125 seconds? A. 1295 feet.

Q. If the "Beaver" was making 13,572 knots per hour, and put her engines full speed astern, what would be her speed through the water after traveling 900 feet from the point where her engines had been reversed? A. 6.81 knots.

Q. If the "Beaver" is making 13,572 knots through the water, and without reducing speed changes her helm to starboard, and after [336—217] her head under the starboard helm has swung one-half point to port her engines are then put full speed astern, and then her helm is put hard-a-port, would the vessel under these maneuvers be swinging rapidly to starboard at the end of one minute, or one minute and a half, after her helm had been put hard-a-port?

Mr. DENMAN.—I do not believe he has qualified as a navigator.

A. I prefer not to answer that question.

Mr. McCLANAHAN.—Q. If the "Beaver" is said to have made 17.6 knots on her trial trip, with 86 revolutions, what would have been the slip of her propeller? A. 6.794 per cent.

(Testimony of L. Heynemann.)

Q. What would have been her speed with 77 revolutions? A. 15.76 knots.

Q. If the slip of her propeller was 6.79 per cent, making 17.6 knots with 86 revolutions, what would the slip have to be if at 77 revolutions the vessel was only making 11 knots?

A. Her slip would have to be 34.97.

Q. Per cent? A. Per cent.

Q. Considering that the "Beaver" had been docked four months before November 22d, 1910, and at the time had had her bottom cleaned and painted, and assuming that on November 22d, 1910, with 77 revolutions the vessel was only making 11 knots, what must have been the sea conditions on that day to account for the difference in the slip when the speed under trial trip conditions would be 15.76 knots at 77 revolutions, and on November 22d, 1910, was only 11 knots at 77 revolutions?

A. There must have been a hurricane to send the ship at that speed.

Mr. DENMAN.—Q. That is written on the paper there, isn't it? A. Yes. [337—218]

Q. Do you have to make a mathematical calculation to get that data, to find out it was a hurricane?

A. Yes, in this way, that you find, that you arrive at an absurd slip; otherwise there must be a hurricane to carry that vessel forward thus.

Mr. McCLANAHAN.—Q. Could such a percentage of difference in the slip be possibly accounted for— A. I have not given the per cent.

Q. What was the percentage of difference?

(Testimony of L. Heynemann.)

A. 28.18.

Q. Could such a percentage of difference in the slip be possibly accounted for by a high, long, rolling swell in a calm? A. No. There is the answer.

Q. Assuming that under trial trip conditions with 86 revolutions, the "Beaver" made 17.6 knots per hour, would it be possible that her speed was only 11 knots if the revolutions were 77 and the slip 25 per cent? A. No.

Q. What would be the difference in the speed of the "Beaver" between 77 and 76 revolutions on a 25 per cent slip? A. 1648 knots.

Q. Per hour?

A. Per hour. The knots always refer to the hour.

Q. What would that difference amount to in feet at the end of five minutes? A. 83.45 feet.

Q. What would be the "Beaver's" speed at 77 revolutions and 25 per cent slip? A. 12.69.

Q. What would it be on the same revolutions with a 20 per cent slip? A. 13.52.

Q. To what extent would a change of one revolution from 84 affect the "Beaver's" speed in one hour, with a slip of 18.67 per cent?

A. 0.176 at 20 per cent slip. I would have to figure that out. [338—219]

Q. Under trial trip conditions with an indicated horse-power of 4448, would it be possible for the "Beaver" to make 17.6 knots per hour through the water? A. No, it would not.

Q. What would be the possible maximum speed of

(Testimony of L. Heynemann.)

the "Beaver" through the water with 4448 indicated horse-power? A. It would be 16.65 knots.

Q. Assuming that the "Beaver," with 84 revolutions traveled $22\frac{1}{2}$ knots in $1\frac{1}{2}$ hours, what would have been the slip of her propeller? A. 18.67.

Q. Now, referring to the "Selja," Mr. Heynemann, how long would it take that vessel to stop by reversing at full speed when she was making three knots?

A. It would take her—I prefer not to answer that question just now.

Q. Why, Mr. Heynemann?

A. Because I have not got it down here. I will have to figure that out.

Q. Will you figure it out, please? A. Yes.

Q. Can you do it now? A. No.

Mr. DENMAN.—Why not?

Mr. McCLANAHAN.—We will reserve that.

A. Because it is too long a process.

Q. Do you know how long she would travel before coming to rest?

Mr. DENMAN.—Q. Have you ever figured that other question?

Mr. McCLANAHAN.—Wait a minute, I am in the midst of asking a question.

Mr. DENMAN.—Pardon me.

Mr. McCLANAHAN.—Q. The "Selja," under the conditions of the last question, how long would she travel?

A. Well, that belongs to that too. I prefer not to answer that now.

(Testimony of L. Heynemann.)

Q. You prefer to reserve that? [339—220]

A. I prefer to reserve that. Will you kindly give me that question again?

Q. How long would it take the "Selja" to stop by reversing at full speed if she was making three knots, and how far would she travel before coming to rest?

A. Yes.

Q. I want you also, Mr. Heynemann, to answer how long it would take the "Selja" to stop by reversing at full speed, if she was going at six knots.

A. All right.

Q. And how long she would travel before coming to rest, making six knots. A. I will do it.

Q. So one of the questions refers to three knots and the other refers to six knots. A. Yes.

Q. How long would it take the "Selja" to come to rest, making three knots from the time the engines were stopped but not reversed?

A. Well now, let me understand. These questions that you just asked were with reference to reversing, were they not?

Q. Yes. A. Backing.

Q. What questions do you refer to?

A. The last two questions that you asked me just now.

Q. The three and six knot questions?

A. The three and six knot questions, yes.

Q. They refer to reversing?

A. Yes, I think I can answer them. If the engines were making six knots and then reversed, her time

(Testimony of L. Heynemann.)

will be 164 seconds, and the distance traveled will be 782 feet.

Q. Now, with reference to the three knot speed. How long would it take the "Selja" to stop by reversing at full speed if she was making three knots?

A. I supposed I had that here, but I have not got it—yes, I have it here now. It would take the "Selja" [340—221] 86 seconds to stop by reversing full speed, if she was making three knots.

Q. How far would she travel before coming to rest? A. 230 feet.

Q. How long would it take the "Selja" to come to rest, making three knots from the time the engines were stopped but not reversed?

A. Those two questions, I would like the privilege of going over them.

Q. You mean the question I have just asked you?

A. Yes.

Mr. DENMAN.—Q. Those are what questions?

A. Questions 3 and 4.

Mr. McCLANAHAN.—Q. And the other question is, how far she would travel in that time. A. Yes.

Q. Let us understand now what you want to reserve answering: that question how long will it take the "Selja" to come to rest making three knots from the time the engines were stopped but not reversed—you prefer to reserve your answer to that?

A. Yes.

Q. How far would it travel in that time, you prefer to reserve your answer to that? A. Yes.

Q. What speed, Mr. Heynemann, would the

(Testimony of L. Heynemann.)

“Selja” be making under the conditions—well, you cannot answer that question until you have answered the third question.

A. Those questions belong together.

Q. The “Selja’s” speed, Mr. Heynemann, was logged and found to be 6 knots on 40 revolutions of her engines; what was her slip? A. 6.46.

Q. Per cent? A. Per cent.

Q. The “Selja’s” engines at 3 o’clock are making 40 revolutions, and remain at 40 until 3:05, when they are put at 20, and remain at 20 until 3:10, when they are stopped, and remain stopped until 3:15; what would be the distance traveled by the vessel from 3 [341—222] o’clock to 3:15, with a slip of 6:46 per cent?

A. That question belongs to the others.

Q. Do you want to reserve your answer to that, too? A. Yes.

Mr. DENMAN.—Q. What number is that question? A. That is No. 9.

Mr. McCLANAHAN.—That is it is numbered 9 on the memorandum from which the witness is testifying.

Q. If the “Selja” with her engines full speed astern was making 1.33 knots astern at the moment of the impact with the “Beaver,” and the angle of the two boats at that moment measured from their center lines was between 70 and 90 degrees, and the markings on the “Beaver’s” port bow show that she entered the “Selja” for a distance of 18 feet, and on the starboard bow for a distance of 10 feet, and

(Testimony of L. Heynemann.)

those markings show an angle of 59 degrees, how is the difference between the angle of approach at the moment of impact, and the angle shown by the markings on the "Beaver" to be accounted for?

Mr. DENMAN.—You have the answer written out there, haven't you? A. Yes, I have.

Mr. McCLANAHAN.—Q. What is the answer to the question, Mr. Heynemann?

A. By the stern motion of the "Selja."

Q. Is that difference in the angles to be accounted for in any other way under the facts stated?

A. It might be, if the angle of impact was different.

Q. I say, under the facts told you, can it be accounted for in any other way?

A. Now, let me see how that is. I prefer not to answer that question.

Q. If the "Selja" is at rest and puts her engines full speed astern, what would be the distance she would travel in one minute. [342—223] from the point where she was at rest, and what would be the rate of speed at the end of one minute?

A. 2.0064 knots rate of speed and 100 feet of travel.

Cross-examination.

Mr. DENMAN.—Q. Let me see the memorandum from which you have testified.

A. Yes. (The witness hands paper.)

Q. And the other one also. A. All right.

Mr. DENMAN.—I offer these in evidence.

(Testimony of L. Heynemann.)

(The papers are marked Respondent's Exhibit 1.)

Q. Now, whose handwriting is this on here, Mr. Heynemann? A. Mine.

Q. All of it?

A. I think so—no. That is not my writing. That I think is Captain Lie's handwriting.

Q. How about this second one, this 18.67.

A. That is Captain Lie's; I think that is Captain Lie's.

Q. That is the answer you gave, was it not?

A. Yes, that is the answer I gave.

Q. And also the third answer is in Captain Lie's handwriting? A. Yes.

Q. These are answers to the various questions that were put to you?

A. Not to various questions, but those particular questions. Where that answer agreed with my own I did not put my own answer down.

Q. So whenever you have your own answers here they disagreed with Captain Lie's prepared statement? A. No, I would not say that at all.

Q. What would you say about it?

A. Well, let me look at it to refresh my memory.

Mr. McCLANAHAN.—Let the witness have the paper if he wants to use it to answer the question.

Mr. DENMAN.—Q. As I understand it, you did work out the answers to all— [343—224]

Mr. McCLANAHAN.—Let him answer the question that you had asked him.

A. I would say that to various questions I note the

(Testimony of L. Heynemann.)

answer of Captain Lie. Wherever the answer agreed with my own, I did not add my answer. I would like to note—

Mr. DENMAN.—Q. Then, as I understand it—

Mr. McCLANAHAN.—Let him finish with his answer. Are you through, Mr. Heynemann?

A. I was going to say I would like to note the cause of this was, this paper being handed to me by Mr. McClanahan in his office, and probably the captain had seen that same paper, it probably belonged to the captain, and it got mixed up, but I did not take any particular reference to these answers.

Q. But you had these answers, didn't you, right along here.

A. I mean I took no particular reference to the answers of Captain Lie; I worked out my own answers.

Q. But this testimony that you have given here was the reading of the answers put on here by Captain Lie, was it not,—to a great many of these questions? A. Not a great many.

Q. It is true of question 2, is it not?

A. Question 2, yes.

Q. It is true of question 3, is it not?

A. Question 3, yes.

Q. That is true of question 6, is it not?

A. Question 6, yes.

Q. Also of question 7? A. No.

Q. Did you have a difference with Captain Lie?

A. Yes, a difference of one decimal in the third place.

(Testimony of L. Heynemann.)

Q. Let me ask you with reference to the others. Now with regard to the questions for the experts concerning the "Selja," that you have preferred not to answer. I notice in answering each one of [344—225] those from 1 to 12 you have put your answer in writing; is that correct? A. Yes.

Q. Why did you prefer not to answer those?

A. Because I prefer to go over my figures.

Q. Have you had a chance to compare those with Mr. Dickie's? A. I have, yes.

Q. Do they compare? A. Yes.

Q. Favorably? A. Yes.

Q. Well, why do you want to go over your figures? What is the matter with them?

A. Because I want to be absolutely sure that I am right.

Q. All right, Question 15: If the "Beaver" is making 13.572 knots through the water, and without reducing speed changes her helm to starboard, and after her head under the starboard helm has swung one-half point to port her engines are then put full speed astern, and then her helm is put hard-a-port, would the vessel under these maneuvers be swinging rapidly to starboard at the end of one minute, or one minute and a half, after the helm had been put hard-a-port. Why did you not want to answer that question?

A. Because it is a very complicated question.

Q. It is a question involving navigation?

A. Yes, it is rather a question of navigation. I have an opinion about it, but I do not want to give

(Testimony of L. Heynemann.)

that opinion because you would probably attack it on the point I have not sufficient experience in navigation.

Q. It would have to be based in part on experience in navigation?

A. No; I think it would have to be based on common sense, but I still think you would attack it on that point.

Q. Do you think it would be open to attack on that point? [345—226]

A. I think you would attack it.

Q. You are not afraid of me personally, are you?

A. Yes, I am.

Q. Do you mean to say—

A. I want to tell you quite frankly, Mr. Denman, I want to be very careful in my answers, because I want to be right, and I do not want to have any point that might be reasonably attacked.

Q. Oh. Then, as I understand it, you are afraid that you will be unable to explain satisfactorily, even with the assistance of your own counsel, why you had come to a certain conclusion as to this question 15; is that it?

A. No, I am not afraid of that. All I can say is that you might contend that I have not sufficient experience for my opinion.

Q. You would be afraid to meet that questioning on my part?

A. Well, I would think that if you asked that question you might prove that I had not sufficient experience in navigation.

(Testimony of L. Heynemann.)

Q. What is the effect—by the way, do you know what sort of a propeller, whether it is a right or left hand propeller on the “Beaver”?

A. I do not know.

Q. Could you answer that question anyway without knowing whether it is a right or left hand propeller?

A. Well, I can only say that most of those vessels have right hand propellers,—most of that class, but I do not know.

Q. Do you know about the “Beaver”?

A. No, I do not.

Q. You do not know whether she is an exception, or not? A. No.

Mr. DENMAN.—By the way, let me ask one more question of the other witness while he is here.

Mr. McCLANAHAN.—You refer to Mr. D. W. Dickie?

Mr. DENMAN.—Yes. [346—227]

Q. Mr. Dickie, what has the “Beaver” got, a right or left hand propeller?

A. There is no evidence to that effect, but I have hearsay evidence that it is a right-hand propeller.

Q. You have hearsay evidence, you do not know that to be a fact?

A. I could not go on the witness-stand and swear to that being a fact.

Mr. DENMAN.—That is all with you, Mr. Dickie.

Q. Now, Mr. Heynemann, presuming it is a right hand propeller, and she has put full speed astern, going at full speed ahead, what would be the tendency

(Testimony of L. Heynemann.)

with the right-hand propeller going full speed astern, with reference to turning the ship?

A. I prefer not to answer.

Q. Do I understand, Mr. Heynemann, that you are going to answer expert questions for the other side and not for me?

A. That is of the nature of the question which Mr. McClanahan asked me which I preferred not to answer him.

Q. Why?

A. Because you might bring up the point of inexperience in navigation.

Q. But it does not require any experience in navigation to know the effect of the revolutions of a propeller on the progress of the ship through the water, as far as the tendency is concerned.

A. It does, and very decidedly.

Q. Do you mean to say that your theoretical knowledge will not tell you whether or not the reversing of a right-hand propeller will tend to throw the bow of the vessel to starboard or to port?

A. I mean to say that is a doubtful question.

Q. Why, is it not a matter of common knowledge that a right-hand propeller reversed will throw the head to starboard and the stern to port? [347—228]

A. Not that I know of.

Q. Never heard of it?

A. I think it is a deep question that I do not want to answer.

Q. Is it not universally acknowledged amongst the profession that is the effect? A. No, sir.

(Testimony of L. Heynemann.)

Q. Of reversing a right-hand propeller?

A. Not that I know of.

Q. Never heard of it?

A. No, sir. I will say that the action of the propeller is under all conditions a very complicated one and very difficult to foretell how it is going to act.

Q. Very difficult to foretell how it is going to act.

A. Yes.

Q. You are quite sure of what effect is going to happen on all these different cases here, are you not?

A. These questions where I know, I have answered them; where I do not know, I have not answered them.

Q. Well, you say it is a very complicated thing. What are the complicated elements in determining the speed at which a propeller will drive a vessel? Tell us some of them.

Mr. McCLANAHAN.—I object to that question. That is not what the witness has said. He said the complication lay in the effect on the head of the vessel under a reversing of the propeller.

Mr. DENMAN.—He has said it is always difficult to tell what the propeller is going to do under any circumstances.

Q. That is correct, is it not? A. That is correct.

Q. What are the complications that enter into those calculations?

A. Well, first of all, one of the factors of the calculation of the speed of a vessel is the displacement, the horse-power, the friction of the vessel in the water, the conditions of the surface, [348—229]

(Testimony of L. Heynemann.)

the form of the vessel's water-line, the efficiency of the propeller, the efficiency of the engines, the weight factor, the factor of resistance, and other complicated points come in, that make it difficult to determine.

Q. Well, now, would you regard it as a very remarkable thing if two experts who had never made any experiments with a vessel, who had no experience excepting a theoretical experience, based on hearsay data should make all of those elaborate calculations as to resistance and all those various things and come out exactly the same, figured to the third decimal?

A. I am not sure that I catch the drift of your question.

Q. Read the question.

(The last question repeated by the Reporter.)

A. Well, we figure to the third decimal; the questions are simply mathematical in their nature; that is to say, if the conditions are given to us,—there are certain conditions given,—and if those conditions are given the answer can be worked out to the 20th decimal.

Q. It can? A. Yes.

Q. I thought you said—

A. And it will be exactly the same.

Q. I thought you said there was a figure of resistance in there that was theoretical?

A. Oh, in those questions, we have not answered them so accurately as that.

Q. You have not? A. No.

Q. You have not figured on resistance at all?

A. We have figured on resistance, we surely have.

(Testimony of L. Heynemann.)

But wherever we have an exact agreement in the decimals, those are simply mathematical questions which can be solved, as long as the conditions [349—230] are accurately given—accurately solved.

Q. Well, then, why can't you tell us what the effect on the ship will be of reversing the propeller? All the conditions are given. Take all the conditions that you have given here.

A. It is because I do not know about the form of the "Beaver's" stern, and do not know about a number of other conditions that might affect that.

Q. What are the other conditions?

A. Well, the other conditions are relative to her headway.

Q. I am not asking you now—one minute—with reference to her headway. I am not asking you how much it would be thrown—

A. You put a broad question.

Q. But I am asking you in which direction the bow would be thrown?

A. You put a broad question which I am not able to answer.

Q. Then I will narrow it down. Presuming that she is going at 10 knots speed ahead, and has a right-hand propeller. A. Yes.

Q. And you reverse full speed astern. A. Yes.

Q. Would the tendency be to throw her bow to port or to starboard?

A. I could not tell you, I do not know.

Q. Isn't it a thing that is entirely capable of physical demonstration? A. Possibly it is.

(Testimony of L. Heynemann.)

Q. Isn't that a thing that any maker or builder of ships should know?

A. Well, possibly. I could not tell you.

Q. Is it any more exceptional in its nature than a knowledge of how much the vessel would go ahead under certain given conditions?

A. Oh, it is entirely different. It is entirely different conditions. I can say that the older I get the more careful I am in answering questions about the propeller. [350—231]

Q. And the speed that it will produce under given conditions? A. No, not that.

Q. What is it, then, you are so careful about? I do not see the point.

A. In questions of navigation.

Q. In questions of navigation.

A. Yes. In fact, I will withdraw the answer that I made before about saying, with regard to the speed, because I am just as careful with regard to the speed also.

Q. Now with regard to the stopping power of a propeller. A. Yes.

Q. You seem to have no difficulty in calculating that.

A. I won't say I had no difficulty. I will say I had difficulty in calculating that.

Q. But you have no doubt in your mind that your results are correct? A. I have no doubt.

Q. What data was that based upon, what experience was that based upon?

A. It is based on experience, or based on the

(Testimony of L. Heynemann.)

results of certain figures made by a man by the name of Hecht. Mr. Hecht is a member of the Institute of Naval Architects, from which Institute we derived nearly all of what we know about the difficult points of navigation and ship lore; he has given, after considerable research, and after having given the matter considerable attention, he has developed a formula, and I have based all my figures on that formula.

Q. Does not the determination of the stopping of a vessel depend upon the conformation of a vessel's stern?

A. It will probably enter into the proposition in a small degree.

Q. Well, then, if it only enters in a small degree into the question of stopping her, why would it not only enter in a small degree into the question of turning her head? [351—232]

A. I do not want to answer that question because I have not had particular experience in that line.

Q. Would not the investigation of the stopping of her involve that very question, how much she turned in the water? A. No, sir, it would not.

Q. Isn't some of her power expended that she would have in turning?

A. This is not a question of turning but of backing.

Q. Would not a part of the power of the vessel be expended in turning in the water as she backed? Isn't that a necessary item in making up the stopping figures of a vessel, how much of the power of the

(Testimony of L. Heynemann.)

vessel going astern would be expended in turning her and how much in stopping her?

A. Well, that question I have not answered, about how much power it would require to turn.

Q. Yes, but in determining how you are going to stop her, haven't you got to ask the question?

A. No.

Q. Isn't some of the power of the vessel in reversing used in turning the vessel in the water?

A. Not necessarily; she could back straight.

Q. Did you ever hear of a vessel backing straight, such a thing? A. Yes, I have.

Q. Did you ever hear of such a thing as a vessel backing straight with her wheel hard-a-port?

A. Very nearly, yes—yes, I have.

Q. When was that?

A. And hard-a-starboard too.

Q. When was that?

A. I know that certain experiments have been made with the rudder hard-a-port and hard-a-starboard, and it has not affected the head of the vessel but so slightly that you could hardly tell the difference.

Q. In backing her? A. In backing her. [352—233]

Q. What vessel was that done on, do you know?

A. The vessel that those certain experiments were done on, I do not remember the name of.

Q. Recently?

A. No, I don't think that they were. I cannot tell you just how recently.

(Testimony of L. Heynemann.)

Q. Since you have been employed in this case?

A. Yes.

Q. Made by Mr. McClanahan?

A. How is that?

Q. Made by Mr. McClanahan?

A. What do you mean?

Q. Were your experiments made under Mr. McClanahan's direction? A. No.

Q. I am asking you. A. No.

Q. You say that you have heard since you have been employed in this case of certain experiments.

A. Yes.

Q. Were the experiments since you were employed in this case? A. Yes.

Q. By whom?

A. No, I beg your pardon—no, they were not made—I can probably answer your question after lunch.

Q. Now let me ask you this; as I understand you, you say that you heard of a number of cases in which the—

A. (Intg.) I would like to correct that. I will say that I have seen the actual lines demonstrated on a diagram to show how little the helm affected the side motion of the vessel.

Q. In going astern, you mean?

A. In going astern, yes.

Q. And on this diagram the propeller was put full speed astern, was it?

A. Full speed astern and from a starboard helm to a port helm.

(Testimony of L. Heynemann.)

Q. And she went practically straight, is that it?

A. Well, it affected her after quite a long distance.

[353—234]

Q. It affected her after quite a long distance?

A. Yes, after she had gone quite a long distance; first it did not; the helm played very little part in the changing of the vessel's head.

Q. What was the model of the vessel?

A. I could not tell you.

Q. Was it a merchant ship?

A. If I remember right, it was a vessel something like between 3 and 4 thousand tons.

Q. That is one of those ordinary merchant ships?

A. Oh, I would not be sure.

Q. Ordinary merchant ship?

A. I don't remember what kind of a ship it was.

Q. You can get that, can you, get the name of the ship? A. Yes, I can get the name of the ship.

Q. What was the purpose of those experiments, Mr. Heynemann?

A. Just to determine this question that you asked, that you think so easy to answer.

Q. I do not think they are easy to answer, don't mistake me on that.

A. It was just to determine how much the helm, the turning of the helm—how much it would affect a vessel backing.

(A recess was here taken until 2 P. M.) [354—235]

(Testimony of L. Heynemann.)

AFTERNOON SESSION.

L. HEYNEMANN, direct examination resumed.

Mr. McCLANAHAN.—Q. Mr. Heynemann, since coming into the room and since the noon recess, you have expressed to me a willingness to answer the 15th question which this morning you said that you would prefer not to answer, and I am going to ask you the question: “If the ‘Beaver’ is making 13.572 knots through the water and without reducing speed changes her helm to starboard, and after her head under the starboard helm has swung one-half point to port her engines are then put full speed astern, and then her helm is put hard-a-port, would the vessel under these maneuvers be swinging rapidly to starboard at the end of one minute, or one minute and a half, after her helm had been put hard-a-port?”

A. Well, I did not understand that that was the question. This is the question that I was willing to answer, about the striking.

Q. I withdraw that then.

A. Not that question. There are so many elements in that question, that it is difficult to answer.

Q. It is the 10th question that you refer to, under the “Selja” set of questions. A. Yes.

Q. If the “Selja” with her engines full speed astern was making 1.33 knots astern at the moment of impact, and the angle of the two boats at that moment measured from their center lines was between 75 and 90 degrees, and the markings on the “Beaver’s” port bow show that she entered the “Selja” for a distance of 18 feet, and on the star-

(Testimony of L. Heynemann.)

board bow for a distance of 10 feet, and these markings show an angle of 59 degrees, how is the difference between the angle of approach at the moment of impact and the angle shown by the markings on the "Beaver" to be accounted for? [355—236]

A. By the stern movement of the "Selja."

Q. Could the difference in these angles be accounted for in any other way, under the facts that have been stated to you? A. I do not think so.

Q. Now, I will ask you the reserved questions. How long would it take the "Selja" to come to rest making three knots from the time the engines were stopped but not reversed?

A. That is the 3d question?

Q. Yes.

A. Not less than 9 minutes and 52 seconds.

Q. How far would she travel in that time?

A. Not less than 1819 feet.

Q. What speed would the "Selja" be making under the conditions of the third question at the end of five minutes, the third question being, how long would it take the "Selja" to come to rest, making 3 knots from the time the engines were stopped but not reversed?

A. Not less than three-quarters of a knot.

Q. If the "Selja" was going at the speed of about three-quarters of a knot under stopped engines, and her engines were then reversed at full speed, how soon would she overcome her headway?

A. About 21 seconds.

Q. Under the conditions of the last question what

(Testimony of L. Heynemann.)

would be her speed astern at the end of one minute?

A. About 1.33 knots.

Q. If the "Selja's" engines at 3 o'clock are making 40 revolutions, and remain at 40 until 3:05, when they are put at 20, and remain at 20 until 3:10, when they are stopped, and remain stopped until 3:15, what would be the distance traveled by the vessel from 3 o'clock to 3:15, with a slip of 6.46 per cent?

A. About—well, put it this way, not less than 6300 feet. [356—237]

Cross-examination.

Mr. DENMAN.—Q. Taking up the last question, how far would she travel the first five minutes?

A. That was about the last question?

Q. Yes. What she would do?

A. What was the last question? Can I see that?

Mr. McCLANAHAN.—There the question is.

A. I would say that she would travel the first five minutes about 3000 feet.

Mr. DENMAN.—Q. Figure it out exactly at six knots. A. It would be 3040 feet.

Q. Now at the end of the first five minutes she drops from 40 to 20 revolutions. A. Yes.

Q. How far would she travel in the second five minutes? A. 2283 feet.

Q. That is, you average it at $4\frac{1}{2}$ knots from that time? A. Yes.

Q. Your theory being that she would drop all of her six knot speed at the end of five minutes?

A. Yes.

Q. You think it would take her that long to drop it

(Testimony of L. Heynemann.)

with the thrust of the 20 revolutions helping her along?

A. That is, in five minutes she would have dissipated the speed of six knots.

Q. That is, despite the fact of the three knot thrust? A. Yes.

Q. Of course that would help her along?

A. Some, yes.

Q. How long would it take her to drop that six knot speed if she did not have the thrust of the 20 revolutions?

A. That is to say, the question then would be if she were going 6 knots.

Q. If she were going 6 knots, how long would it be, without the assistance of the 20 revolutions?

A. I could not answer that [357—238] question without going into the figures.

Q. Well, how can you answer it this way?

A. Because the engines here are going and the other way it is a drifting proposition.

Q. You know that is also drifting down from 6 knots to 3.

A. Yes, but I know that from figures that I have made, I know the speed of six knots would have been dissipated at the end of five minutes.

Q. With the thrust of the 20 revolutions?

A. Yes.

Q. You have figured that out, have you?

A. Yes.

Q. With the thrust at 20 revolutions?

A. Yes. She is going at 3:05, she drops from 6

(Testimony of L. Heynemann.)

knots to 3 knots, so that she has got a three knot impetus at that point.

Q. Well, she has got a six knots momentum.

A. Six knot momentum.

Q. And has a three knot thrust in addition to that.

A. Yes.

Q. You think, as a result of your figures and careful calculation, you say that at the end of five minutes she would have dissipated the six knots speed?

A. Yes.

Q. On that calculation how much did you figure for the drive of the 20 revolutions?

A. Well, that is contained in the formula that we used.

Q. What is the formula that you used that contains that data?

A. It is the formula of Mr. Hecht.

Q. We want the formula, to put into the record.

Mr. McCLANAHAN.—Q. Where is the formula?

A. The formula is in the records of the association of British Architects.

Q. I mean, where is the copy of it that you used?

Mr. HENGSTLER.—Q. Could you give us the formula?

A. I think I can give you the formula. [358—239]

Mr. McCLANAHAN.—Q. Hasn't Mr. Dickie it?

A. I think he has; I am not sure whether he has it or not.

A. The formula for the distance run is equal to D . I will give you the meaning of these afterwards. D divided by $gr \log E$ by V^1 divided by v equals S ,

(Testimony of L. Heynemann.)

equals the distance run. S is the distance run. D represents the displacement of the vessel in pounds; g represents the acceleration of gravity; r represents the unit resistance at unit velocity. E is the basis of a Napierian logarithm, or the Natural logarithm as it is called. V^1 is one speed and V is the other speed in feet per second.

Mr. DENMAN.—Q. You say this formula won't apply to a case where the engines are stopped—

A. (Intg.) And reversed.

Q. When the engines are stopped and nothing else happens, just run around at a certain speed.

A. Yes, that formula applies to that.

Q. Will you please work out by that formula how long it would take the vessel to drop from six knots to three knots, without the thrust?

A. Yes. Well, I could not do it now; it takes quite a little while to do that.

Q. As a matter of fact, it would be less time if you take away the thrust of three knots speed?

A. No, it would be a much longer time.

Q. It would take longer to drop from six knots to three knots if you did not have the three knots thrust, or shorter? Do not let me confuse you. She is running at six knots. A. Yes.

Q. You have a 40 revolution thrust of the propeller?

A. Yes; and she is running now at 6 knots.

Q. Then you drop your 40 revolutions and go to 20 revolutions. A. After a certain time? [359—240]

Q. No; she is running at 3 o'clock—

(Testimony of L. Heynemann.)

A. I understand. Here is at 3 o'clock; at 3:05 she drops from 40 to 20 revolutions.

Q. All right. Now, in 5 minutes the 6 knots speed is dissipated and she has dropped to 3 knots?

A. Yes.

Q. Now, suppose at 3:05, instead of going at 20 revolutions you stop your engines. A. Yes.

Q. Will it take longer or shorter for the vessel to drop to a three knot speed? You have answered before that the thrust would help her along,—it would take less time. That is correct, isn't it?

A. Let us see? Would it take—

Mr. McCLANAHAN.—Q. Longer or shorter, if you kept the engines at 20 revolutions?

A. I would not be prepared to answer that question without figuring it out.

Mr. DENMAN.—Q. Do I understand you to say that you cannot tell me as an expert whether or not she would go faster between 3:05 and 3:10 if you have a 20 revolution thrust?

A. You did not put the question that way. It will go faster, yes certainly; that is, her average speed during that time would be more.

Q. Her average speed during that time would be more? A. Yes.

Q. She will cover more ground during that time?

A. Yes.

Q. So that she would lose then the influence of—

A. (Intg.) —of her six knots speed in less than five minutes.

Q. That is correct? A. That is correct.

(Testimony of L. Heynemann.)

Q. About how much would you say, as a rough estimate? A. I could not give you a rough estimate.

Q. Would it be two minutes sooner?

A. I could not tell you.

Q. Well, your formula will work that out, won't it?

A. Yes.

Q. Just convert the formula into those figures; do not work it [360—241] out A. Yes.

Q. State your equation as it will be with the figures that you would use for working that out.

A. Yes. (The witness writes down the equation.)

Q. Now, give me the equation as it was with the 20 revolutions. A. With the 20 revolutions?

Q. Yes.

A. The equation was—you mean this equation that I worked out here just now.

Q. The equation as it would be for working out, not what you did work out, but for working out the problem where you have six knots speed at 3:05 and you drop from 40 to 20 revolutions.

A. Well, I have given you these.

Q. Now, give me the equation where you drop from 40 to no revolutions?

A. Oh. This formula does not take that in, dropping to no revolutions.

Q. Why not? A. Because—

Q. If it will work one way, why not the other?

A. Because it won't; that formula is only good down to one knot speed; it does not go down to zero.

Q. What is the reason for that?

A. Because you get them into a fraction, into an

(Testimony of L. Heynemann.)

infinitely small fraction in the logarithms.

Mr. HENGSTLER.—Q. You get a logarithm equal to zero? A. Equal to zero.

Mr. DENMAN.—Q. Then, as I understand it, presuming now that we go down to say 5 revolutions, supposing she drops from 20 to 5 revolutions—see what you will get us then for the time within which she would dissipate the six knots speed?

A. This would be the logarithm of 20 to 5.

Mr. HENGSTLER.—Q. That is the distance?

A. That is the distance. [361—242]

Mr. DENMAN.—Q. You work it out for that.

A. There is the formula. I cannot now.

Mr. HENGSTLER.—Q. It would take a table of logarithms to do that? A. No man can do it now.

Q. You have not a table of logarithms here, have you? A. No.

Mr. DENMAN.—Q. How did you work it out when I asked you the question as to the six knots speed, and dropping to 20 revolutions,—you have been answering me that you had worked the thing out and you knew the 6 knots speed would be dissipated.

A. Because I worked out in my own office the fact that she would have dissipated her speed in five minutes from the 6 knots speed.

Q. She would drop from 6 knots to 3 knots in 5 minutes? A. Yes; I worked that out.

Q. On this equation? A. On this equation, yes.

Q. Have you got a table of logarithms here?

A. No.

Q. Has Mr. Dickie? A. No.

(Testimony of L. Heynemann.)

Mr. HENGSTLER.—Q. You can approximate, can't you, Mr. Heynemann, what the logarithm of 5 is,—can't you?

A. No. I would not like to approximate a logarithm.

Q. Well, just approximate it. I do not mean to give it accurately.

A. No, I would not like to approximate it.

Mr. DENMAN.—Q. Now, as an expert, let me ask you, do you believe if she will dissipate her six knots speed on 20 revolutions in 5 minutes, would she dissipate with no revolutions a 6 knots speed, dropping to 3 knots in 5 minutes at 20 revolutions—what is your opinion of the time that it would take to drop to a three knot speed at no revolutions?

A. I would not answer [362—243] that question without working it out.

Q. In other words, you have not got any common sense of the thing in your mind?

A. No, I would like to figure it out before giving an answer to it.

Q. Would you say that it was one minute less time?

A. I do not like to answer unless I have the opportunity of working things out.

Q. What is your best impression of it? Would it be about one minute?

A. No, I have no impression.

Q. Well, now, as a mechanical engineer, you know that the 20 revolutions would add very materially to the speed during the five minutes, don't you?

A. Yes.

(Testimony of L. Heynemann.)

Q. In other words, she would travel a much greater distance in the 5 minutes with the 20 revolutions than she would without? A. Sure.

Q. Now, will you determine how far she would travel in dropping from a six knot speed to a 3 knot speed under stopped engines? A. Yes.

Q. And have that for me at some future time?

A. Yes.

Q. I am not trying to trip you, I want the evidence myself. A. I understand.

Mr. McCLANAHAN.—Q. You understand the question thoroughly, do you?

A. Yes. Mr. Denman wants to know how far she would travel dropping from 6 knots down to 3 knots.

Q. On stopped engines.

A. On stopped engines, yes.

Mr. DENMAN.—Q. Mr. Heynemann, how did you work out the proposition, what formula did you use in determining that it would take some 9 minutes for the vessel to come to a dead stop in the event she was running at 3 knots and her engines were stopped?

[363—244]

A. I used this same formula for distance.

Q. I thought you said you could not use that where you had no revolutions of the engines?

A. Oh, we took the several vessels and plotted their distance, so as to make up for this deficiency, and took the distance from that plotting.

Q. Did you take vessels of the same model of the "Selja"? A. About the same model.

Q. What were the vessels?

(Testimony of L. Heynemann.)

A. Well, one was the "Wisconsin."

Q. The "Wisconsin"? A. Yes.

Q. Is she of the same model as the "Selja"?

A. Being not of the same model would not make much difference because we have a figure of reduction or a figure to increase, in order to get at the same.

Q. Where did you get at the "Wisconsin's" time?

A. The "Wisconsin's" time is published.

Q. The time it would take to stop from three knots?

A. Yes.

Q. To nothing? A. Yes.

Q. What was the condition of the water under which that was done?

A. As far as I know, it was a smooth sea.

Q. A smooth sea? A. Yes.

Q. And that is true of the other two vessels, isn't it? A. Yes.

Q. So that that is simply a theoretical formula for a smooth sea? A. Yes.

Q. Now, as I understand it, the result of the hypothetical question regarding the scars on the "Beaver" was that if she was struck at right angles and showed the scars on her port side that were referred to, that she must have been crossing the bows of the "Beaver" going astern at about right angles at the time they struck?

A. I do not quite get your question. [364—244½]

Q. As I understand, the result of the substance of your answer to the hypothetical question I have just referred to is that at the time the "Beaver" struck the "Selja" the "Selja" must have been crossing the

(Testimony of L. Heynemann.)

bows of the "Beaver" at right angles, going astern?

Mr. McCLANAHAN.—I object to that question on the ground that it is not a proper statement of the witness' answer. The answer was that the "Selja" was going astern. There is no reference to the "Beaver's" course at all.

Mr. DENMAN.—Q. If she struck at right angles?

A. The way I understand the question is that the "Beaver" strikes the "Selja" at a certain angle.

Q. Presuming that angle now to be at right angles?

A. At a right angle?

Q. Presume it was at right angles. A. Yes.

Q. And the scars are as described, would you not be compelled to presume that the "Selja" was going astern across the "Beaver's" bows at about right angles? A. Yes.

Q. Now, if the testimony should show that the "Beaver" continued under full speed astern for a minute and a half after the collision, would that account for the scars being in that position?

A. That the "Selja" kept going astern?

Q. The "Selja," yes. Suppose now it should appear that the "Selja" kept on going astern for a minute and a half. A. Yes.

Q. Would that account for the scars being as extensive as they are on the "Beaver"? A. It might.

Mr. McCLANAHAN.—Now, I do not want you to think there is a mistake in the record. You said "Selja." Did you mean "Beaver"?

A. In answering that I understood you meant after the collision [365—245] that the "Selja" went

(Testimony of L. Heynemann.)

astern, after the collision, for a minute and a half.

Mr. DENMAN.—Q. At full speed.

A. What do you mean by full speed for a minute and a half?

Q. Full speed astern for a minute and a half. I mean that her engines were going full speed astern for a minute and a half.

A. It might account for the same markings on the bow of the “Beaver.”

Q. As I understand it, this calculation between 3:05 and 3:10 as to the dropping of her six knots speed completely and going down to three knots was made after careful working out of that formula in your office? A. Yes, sir.

Q. Did you compare that result with Mr. Dickie?

A. Yes.

Q. And he got the same result? A. Yes.

Q. Then you averaged the speed between 3:05 and 3:10, meaning just half between 3 and 6?

A. Halfway between 3 and 6.

Q. Meaning 4½? A. Yes.

Redirect Examination.

Mr. McCLANAHAN.—Q. You have said that if the “Selja” was going astern for a minute and a half after the collision, that might account for the markings on the “Beaver’s” bow? A. Yes, sir.

Q. That is on the supposition that the “Beaver” would remain in the hole? A. Yes, sir.

Recross-examination.

Mr. DENMAN.—Q. She would have to remain in the hole, any way, to get the markings, wouldn’t she?

(Testimony of L. Heynemann.)

A. Yes.

Q. Of course, she could not get out in the open air, could she? [366—246]

A. That is under the conditions of the question asked.

Q. You do not mean to say she would have to remain in the hole a whole minute and a half to get the markings that she got? A. No.

Mr. DENMAN.—That is all now.

[**Testimony of James Dickie, for Libelant.**]

JAMES DICKIE, called for the libelant, sworn.

Mr. McCLANAHAN.—Q. How old are you, Mr. Dickie? A. 64. Between 64 and 65.

Q. You live here in the city, do you? A. Yes.

Q. How long have you lived here? A. 41 years.

Q. What is your business, Mr. Dickie?

A. Naval Architect.

Q. How long have you been engaged in that business?

A. I have been engaged in that business and leading up to it since boyhood.

Q. Will you give a brief statement of your experience?

A. In this country I built 41 wooden vessels before joining the Union Iron Works. I joined the Union Iron Works in 1884. Since then I had charge of the shipyards, superintending of the shipyards, and was connected with building merchant vessels and many war vessels.

Q. What were your duties in connection with the Union Iron Works?

(Testimony of James Dickie.)

A. Superintendent of the shipyard.

Q. And what were your duties as superintendent?

A. Attending to building of vessels, in charge of building vessels.

Q. Where did you get your education?

A. At common school.

Q. In this country? A. In Scotland. [367—
247]

Q. How long were you superintendent of the Union Works? A. 21 years.

Q. When did you cease your connection with them? A. In 1905.

Q. What have you done since then?

A. Well, doing office business in naval architecture.

Q. In this city? A. In this city.

Q. I am going to give you, Mr. Dickie, some data pertaining to the steamship "Beaver" and also some data pertaining to the steamship "Selja."

Mr. DENMAN.—We will stipulate that the same data given the other experts is now given to Mr. Dickie.

Mr. McCLANAHAN.—Q. You know the data that I intend to give to you? A. I think I do.

Q. We will then assume that that data is as you think. You know the steamship "Beaver," do you, Mr. Dickie? A. I have seen her.

Q. You know the class of the ship?

A. I know the class of ship.

Q. Can you say the same in regard to the "Selja?"

A. Yes; I have got a plan of the "Selja" that shows what kind of a ship she was.

(Testimony of James Dickie.)

Q. If the "Beaver" on her course out through the Golden Gate passes North Heads at 1:37 P. M., and Red Buoy No. 2 at 1:45 P. M., without changing the revolutions of her engines, the distance between these two points being two knots, and proceeds under the same conditions until 3:10 P. M., how far would she have travelled and at what rate of speed from 1:37 P. M.?

A. 23.25 knots; and the rate of speed would be 15 knots.

Q. If the "Beaver" travelled 23.25 nautical miles from 1:37 P. M., to 3:10 P. M., and her speed was 15 knots during that time, and [368—248] assuming that the revolutions of her engines were 84 during that time, and the pitch of her propeller 22 feet, 3 inches, what must have been the slip of her propeller?

A. 18.67 per cent.

Q. Under the same statement of facts, Mr. Dickie, as just given you, except we will assume that her engines were making 77 revolutions instead of 84 revolutions, what would the slip of her propeller be?

A. 11.28 per cent.

Q. If the "Beaver" in passing out through the Golden Gate, passes the North Heads at 1:37 P. M., and Red Buoy No. 2 at 1:45 P. M., without changing the revolutions of her engines, and under the same conditions continues her speed for a total distance of 23.25 knots measured from the North Heads, would it be possible that her engines were making only 77 revolutions during the run of 23.25 knots if her slip was more than 12 per cent? A. No, sir.

(Testimony of James Dickie.)

Q. Would it be possible that her speed was only 11 knots? A. No.

Q. If the "Beaver" in passing out through the Golden Gate, passes the North Heads at 1:37 P. M., and Red Buoy No. 2 at 1:45 P. M., without a change in the revolutions of her engines, and under the same conditions continues for a total distance of 23.25 knots measured from the North Heads, would it be possible that her engines during the run were making 77 revolutions with a slip of 25 per cent?

A. No.

Mr. DENMAN.—Perhaps I can save time. Is it your intention to ask right through the same questions and get the same answers as you did with the other two?

Mr. McCLANAHAN.—I intend to ask every one of the questions. [369—249]

Mr. DENMAN.—Is it your intention to ask exactly the same questions and do you expect to get exactly the same answers as the other witnesses testified to?

Mr. McCLANAHAN.—Yes.

Mr. DENMAN.—Then why can't we stipulate Mr. Dickie will on your direct examination state exactly what the other witnesses stated?

Mr. McCLANAHAN.—I prefer to get it in the record.

Mr. DENMAN.—It simply piles up the record that the judge will have to wade through.

Mr. McCLANAHAN.—Q. If the "Beaver's" speed is 15 knots per hour—

(Testimony of James Dickie.)

Mr. DENMAN.—We object to it on the ground it is uselessly piling up the cost.

Mr. McCLANAHAN.—Q. If the “Beaver’s” speed is 15 knots per hour, with 84 revolutions, and the slip of her propeller is 18.67 per cent, what would be the speed of the vessel at the end of five minutes after the revolutions had been reduced to 76?

A. 13.572 knots per hour.

Q. If the “Beaver’s” speed is 15 knots with 84 revolutions and a slip of 18.67 per cent, what would be the vessel’s speed if the revolutions are reduced to 77? A. 13.751 knots per hour.

Q. If the vessel’s speed at 77 revolutions is 13.751 knots, what would be her speed at the end of five minutes if the revolutions are reduced from 77 to 76?

A. 13.572.

Q. If the “Beaver’s” engines were making 77 revolutions per minute would it be at all practicable to change them to 76? A. Barely possible. [370—250]

Q. To what extent would a change of one revolution from 77 to 76 affect the “Beaver’s” speed in an hour with a slip of 18.67 per cent?

A. 0.179 knots per hour.

Q. If the “Beaver” was making 13.572 knots per hour, and put her engines full speed astern, how long would it be before her headway would be stopped? A. About 125 seconds.

Q. How far would the vessel travel during the 125 seconds? A. About 1295 feet.

Q. If the “Beaver” was making 13.572 knots per

(Testimony of James Dickie.)

hour, and put her engines full speed astern, what would be her speed through the water after travelling 900 feet from the point where her engines had been reversed? A. About 6.81 knots.

Q. If the "Beaver" is making 13.572 knots through the water, and without reducing speed changes her helm to starboard, and after her head under the starboard helm has swung one-half point to port her engines are then put full speed astern, and then her helm is put hard-a-port, would the vessel under these maneuvers be swinging rapidly to starboard at the end of one minute, or one minute and a half, after her helm had been put hard-a-port?

A. No.

Mr. DENMAN.—One moment, before he answers it.

Mr. McCLANAHAN.—He has answered it. Do you want the answer withdrawn?

Mr. DENMAN.—Q. Have you ever had any experience in navigation, yourself—ever navigate—

A. Not in navigating.

Mr. McCLANAHAN.—What is the purpose of interrupting me?

Mr. DENMAN.—The purpose of interrupting you is to discover whether or not this witness is sufficiently qualified to answer this particular question. [371—251]

Mr. McCLANAHAN.—You can find that out on cross-examination.

Mr. DENMAN.—Oh, no. I believe I have a right to find it out now.

(Testimony of James Dickie.)

Mr. McCLANAHAN.—He has answered the question. You can cross-examine him on it.

Mr. DENMAN.—You withdraw the answer, I believe.

Mr. McCLANAHAN.—No, I did not.

Mr. DENMAN.—You did not?

Mr. McCLANAHAN.—I did not withdraw it. I asked if you wanted it withdrawn.

Mr. DENMAN.—I ask to have it withdrawn.

Mr. McCLANAHAN.—I object to being interrupted in this way. If the question is improper—

The WITNESS. I can produce the evidence it is founded on.

Mr. DENMAN.—Q. That this is founded on? You mean that this calculation is founded on?

A. Yes.

Q. You will do that later on, will you?

A. Yes.

Mr. McCLANAHAN.—Are you through now with the interruption?

Mr. DENMAN.—I am through interrogating the witness.

Mr. McCLANAHAN.—Q. Mr. Dickie, would it make any difference if she was only making ten knots?

A. It might make a slight difference.

Q. Which way? A. I do not know.

Q. That is, your answer to the first question was that she would not be swinging rapidly to starboard.

A. Yes.

Q. And if it was ten knots, you say that might

(Testimony of James Dickie.)

make a slight difference?

A. Might make a slight difference; might be less rapidly or more rapidly, I don't know which. I have got to get my data before I can answer that intelligently.

Q. If the "Beaver" is said to have made 17.6 knots on her trial [372—252] trip, with 86 revolutions, what would have been the slip of her propeller?

A. 6.794 per cent.

Q. What would have been her speed with 77 revolutions? A. 15.76 knots.

Q. If the slip of her propeller was 6.79 per cent, making 17.6 knots with 86 revolutions, what would the slip have to be if at 77 revolutions the vessel was only making 11 knots? A. 34.97 per cent.

Q. Considering that the "Beaver" had been docked four months before November 22d, 1910, and at the time had had her bottom cleaned and painted, and assuming that on November 22, 1910, with 77 revolutions the vessel was only making 11 knots, what must have been the sea conditions on that day to account for the difference in the slip when the speed under trial trip conditions would be 15.76 knots at 77 revolutions, and on November 22d, 1910, was only 11 knots at 77 revolutions?

A. Something between a gale of wind and a hurricane.

Q. Could such a percentage of difference in the slip be possibly accounted for by a high, long, rolling swell in a calm? A. No.

Q. Assuming that under trial trip conditions with

(Testimony of James Dickie.)

86 revolutions the "Beaver" made 17.6 knots per hour, would it be possible that her speed was only 11 knots if the revolutions were 77 and the slip 25 per cent? A. No.

Q. What would be the difference in the speed of the "Beaver" between 77 and 76 revolutions on a 25 per cent slip? A. 0.1648 knots per hour.

Q. What would that difference amount to in feet at the end of 5 minutes? A. 83½ feet.

Q. What would be the "Beaver's" speed at 77 revolutions and 25 [373—253] per cent slip?

A. 12.69 knots.

Q. What would it be on the same revolutions with a 20 per cent slip? A. 13.53 knots.

Q. To what extent would a change of one revolution from 84 affect the "Beaver's" speed in one hour, with a slip of 18.67 per cent?

A. .179 knots per hour.

Q. Under trial trip conditions with an indicated horse-power of 4448, would it be possible for the "Beaver" to make 17.6 knots per hour through the water? A. No.

Q. What would be—

A. (Intg.) Hold on a minute. You did not give the displacement there.

Q. Well, you have got it, Mr. Dickie, in the data.

A. I have got it?

Q. You have got it in the data you are answering from. Your answer is "no," is it?

A. The answer is "no."

Q. What would be the possible maximum speed of

(Testimony of James Dickie.)

the "Beaver" through the water with 4448 indicated horse-power?

A. 4800 tons, 16.13 knots, sea conditions, and 16.65 knots with an absolutely clean bottom and smooth water.

Q. But what would it be if the displacement was 4400 tons? A. I did not figure that one out.

Q. Assuming that the "Beaver" with 84 revolutions travelled $22\frac{1}{2}$ knots in one and one-half hours, what would have been the slip of her propeller?

A. 18.67 per cent.

Q. Mr. Dickie, how long would it take the "Selja" to stop by reversing at full speed, if she was making three knots? A. About 86 seconds.

Q. How far would the "Selja" travel before coming to rest? A. About 220 feet. [374—254]

Q. Suppose she were making 6 knots, how long would it take her to stop by reversing her engines at full speed? A. 6 knots?

Q. Yes. A. I do not have that one here.

Q. That is one of the late questions; I think you will find it later on (showing).

A. 2 minutes and 44 seconds.

Q. How far would she run, what would be the distance she would travel? A. About 782 feet.

Q. How long would it take the "Selja" to come to rest, making 3 knots, from the time her engines were stopped but not reversed?

A. About 9 minutes and 52 seconds.

Q. How far would she travel in that time?

A. About 1819 feet.

(Testimony of James Dickie.)

Q. What speed would the "Selja" be making under the conditions of the third question, at the end of five minutes?

A. About three-fourths of a knot

Q. That is, where the vessel was making 3 knots and the engines were stopped but not reversed.

A. Yes.

Q. If the "Selja" was going at a speed of about three-fourths of a knot under stopped engines, and her engines were then reversed at full speed, how soon would she overcome her headway?

A. About 21 seconds.

Q. Under the conditions of the last question, what would be her speed astern at the end of one minute?

A. About 1.33 knots per hour.

Q. The "Selja's" speed, Mr. Dickie, was logged and found to be 6 knots on 40 revolutions of her engines; what was her slip? A. 6.46 per cent.

[375—255]

Q. The "Selja's" engines at 3 o'clock are making 40 revolutions, and remain at 40 until 3:05, when they are put at 20, and remain at 20 until 3:10, when they are stopped, and remain stopped until 3:15; what would be the distance travelled by the vessel from 3 o'clock to 3:15, with a slip of 6.46 per cent?

A. About 6270 feet.

Q. If the "Selja" with her engines full speed astern was making 1.33 knots astern at the moment of impact with the "Beaver," and the angle of the two boats at that moment measured from their center lines was between 75 and 90 degrees, and the mark-

(Testimony of James Dickie.)

ings on the "Beaver's" port-bow show that she entered the "Selja" for a distance of 18 feet, and on the starboard bow for a distance of 10 feet, and these markings show an angle of 59 degrees, how is the difference between the angle of approach at the moment of impact and the angle shown by the markings on the "Beaver" to be accounted for?

A. It could be accounted for by the stern motion of the "Selja."

Q. Could it be accounted for in any other way under those facts?

A. Yes, it might be accounted for if the angle at which the "Beaver" struck the "Selja" was about 65 degrees.

Q. That would be changing my facts. I say, could it be accounted for on any other hypothesis if those facts were the same?

A. Read the entire question again.

Q. If the "Selja" with her engines full speed astern was making 1.33 knots astern at the moment of impact, and the angle of the tow-boats at that moment measured from their center lines was between 75 and 90 degrees, and the markings on the "Beaver's" port bow show that she entered the "Selja" for a distance of 10 feet, and these markings show an angle of 59 degrees, how is the difference [376—256] between the angle of approach at the moment of impact, and the angle shown by the markings on the "Beaver" to be accounted for? Your answer was it could be accounted for by the "Selja" going astern. Now, I ask you if it could be accounted for in any

(Testimony of James Dickie.)

other way under that statement of facts that has been presented to you?

A. I do not think so—yes, if she hit that vessel at that angle, at the 65 degrees, she could do it.

Q. I have not given you 65.

A. You have given me—

Q. I am asking you if the angle of the boats was between 75 and 90 degrees, and the markings on the “Beaver” show an angle of 59 degrees—you have said that might be accounted for by the stern movement of the “Selja,” I say could it be accounted for in any other way under those facts, under those angles? A. Not if you stick to the angles exactly.

Q. If the “Selja” is at rest and puts her engines full speed astern, what would be the distance she would travel in one minute from the point where she was at rest, and what would be the rate of her speed at the end of one minute?

A. About 100 feet, and about 2.006 knots.

Q. Mr. Dickie, in your experience, you have made a great many observations, haven't you, respecting the navigation of vessels?

A. Quite a number—made a great many observations while traveling in vessels.

Q. For the purpose of your business?

A. For the purpose of business and for the purpose of general information.

Q. In arriving at your answers to some of these questions, how have you been assisted?

A. I wrote to the British Board of Trade for the steering and stopping of vessels and got an answer

(Testimony of James Dickie.)

[377—257] that they had turned the question over to the British Association of Science; I then wrote to the British Association of Science, and was referred to their proceedings for three or four years. I hunted up their proceedings in the library in Berkeley, and took notes from their proceedings. Then I wrote to the Bureau in Washington for their data regarding the stopping of warships and got quite a list of ships from them, the time for stopping, and from these and from them I used a formula that I found in my copies of the *Naval Architect* for 1888, I think it is, I would not be positive, by Mr. Hecht, and endorsed strongly by McFarland Gray, who has since died—McFarland Gray was a very able man and would not endorse anything unless it was in very good shape. We used that formula in figuring out the distance the vessel would stop, used the information given by the British Association of Science for finding the distance the vessel traveled, when traveling in certain directions.

Q. Did the formula agree with the data that you had obtained?

A. The formula agreed so well that I began to place implicit confidence in it before I got done with them.

Q. What was this data that you checked the formula up with, what did it consist of?

A. Of a set of trials of warships from the Bureau at Washington, and stopping and steering trials from the British Association of Science.

Q. How many of these trials were used by you?

(Testimony of James Dickie.)

A. In all of them I think there is about 17 or 18 vessels.

Q. Now, in answering the question as to the rapid swinging of the "Beaver" to starboard—do you remember that question? A. Yes.

Q. What assisted you in answering that question?
[378—258]

A. This is plotted off.

Q. You are referring now to what?

A. I am referring to the steering when the vessel is reversed. This is a vessel somewhat near the size of the "Beaver"; she is 389 feet long, and a beam of 42 feet, and a depth of 28 feet 8. Her tonnage was 3594; she draws more water, I find, about 24 feet 8 inches of water. Now, this helm is put to port, and the vessel swings to port. She was making 10 knots at the time she crossed this line, and it took her—these are 15 seconds apart—this was the position the ship was in every 15 seconds, taken by standard compass off the bridge. That is what that vessel did in 10 knots. Whether the helm would have more effect than the propeller backing between 10 and 13 and 14 knots, I do not know, I have not any data; I cannot find any.

Mr. DENMAN.—Q. Then, Mr. Dickie, as I understand it, referring to the first experiment, the propeller was not at full speed astern?

A. Which first experiment?

Q. On this one here.

A. Yes—full speed astern she was making 10 knots

(Testimony of James Dickie.)

and they suddenly backed her, going full speed astern.

Q. What horse-power?

A. I don't know what horse-power.

Mr. McCLANAHAN.—Q. What was the effect?

Mr. DENMAN.—Q. You don't know the horse-power? A. I don't remember it.

Mr. McCLANAHAN.—Q. What was the effect on the head of the vessel; is that shown on this chart?

A. That is shown on that chart.

Q. Will you please take a pencil and mark the ship that you first referred to as "A."

A. Yes. This is the ship that the helm was put to port, and the ship goes to port. [379—259]

Q. Now, mark that one "B." A. Yes.

Q. Now, what is this next ship that you have marked "B"?

A. It is the same ship with the helm put to starboard, and she goes to starboard.

Q. And the dots on these lines extending from both "A" and "B" are what?

A. They are 15 second intervals.

Q. 15 second intervals? A. Yes.

Q. We will mark this "O." A. Yes.

Q. Now, we will turn to the next one which we will mark "C." What does that experiment show?

A. That helm was amidships and she swung to starboard, with a right-hand wheel.

Q. What speed was she making? A. 10 knots.

Q. And her engines were reversed full speed astern? A. Reversed full speed astern.

(Testimony of James Dickie.)

Q. And those circles are what?

A. 15 second intervals.

Q. We will mark those "OO." A. Yes.

Q. Now, we will turn to the next ship; we will mark that "D." The same ship, is it?

A. The same ship.

Q. What is the result there?

A. Going astern about ten knots and then he goes ahead full speed, and she moves very little; just moves a little over to port.

Q. This last experiment, then, the vessel was going full speed ahead and her engines were reversed?

A. No; she was going full speed astern.

Q. Going full speed astern and her engines were reversed? A. Yes.

Q. And those markings show the course?

A. At 15 second intervals.

Q. Mark those "XX."

A. You see she came to rest in much shorter time with the engines going ahead than with the engines reversed. [380—260]

Q. You are referring now to the ship marked "D"?

A. To the distance traveled—well, the whole ship, all of them.

Mr. McCLANAHAN.—We will offer this blue-print which the witness has been testifying to in evidence and ask to have it marked.

(The blue-print is marked Libelant's Exhibit 16.)

Q. Do you know, Mr. Dickie, the effect of rever-

(Testimony of James Dickie.)

sing at full speed astern when the vessel is going ahead on the efficiency of the rudder?

A. The rudder going astern, generally speaking, has very little directive force.

Q. You mean when the vessel is going astern—

A. Going astern.

Q. You do not mean when going ahead with reverse wheel?

A. When she is going ahead with reverse wheel, the rudder has very little effect on her.

Q. That is when the vessel is going ahead and you reverse her engines the rudder has very little directive force?

A. Yes. You give me that blue-print again. That statement that I made refers from 10 knots down to rest, and does not take any cognizance between 10 and 13 and 14 or 15 knots, because I have no data, I do not know what would happen if there was a distance out this way, I do not know what would happen. I am inclined to think that the vessel going through the water, her helm would just operate in the ordinary manner.

Cross-examination.

Mr. DENMAN.—Q. Is this the only case that you have had the plotting of?

A. The only one I had any plotting of because the others just gave one point here; some of them give one point in the middle, and some only give the direction when the ship [381—261] came to rest, but they were all in the same line.

(Testimony of James Dickie.)

Q. This was the only one—

A. (Intg.) The only one that I plotted. The spots came out so nicely that I—

Q. Where are your answers?

A. There is my answer to these questions; you can take them.

Mr. McCLANAHAN.—Q. You were saying the points came out so nicely that what?

A. Came out so nicely that I thought the captain's observations were very accurately taken.

Q. What captain?

A. The captain of the "Hankow"; I forget his name now.

Q. That is the name of this vessel (pointing)?

A. Yes, that is the name of the vessel, the "Hankow."

Mr. DENMAN.—Q. As I understand it, Mr. Dickie, you do not know what the horse-power of the "Hankow" was?

A. I know that it was less than the "Beaver's."

Q. You know it was less than the "Beaver"?

A. Yes, I know it was less.

Q. How much less?

A. I do not remember that.

Q. How do you know it was less than the "Beaver"?

A. Because it said full speed was about 10 knots with that displacement, and the "Beaver's" speed in say about 14 or 15 or 16 knots, so I suppose she subsequently must have had less power.

Q. Consequently must have had less power. It

(Testimony of James Dickie.)

would have much less power?

A. Much less power; probably not half the power.

Q. And the "Hankow" was drawing very much more water?

A. Drawing a little more water.

Q. You say a little more. Don't you call that—

A. (Intg.) Considerably more. [382—262]

Q. Considerably more? A. Yes.

Q. In other words, one was a much shallower vessel than the other?

A. I think they were pretty nearly the same depth vessel, only the "Hankow" was deeper loaded.

Q. Deeper loaded? A. Yes.

Q. You and your son and Mr. Heynemann have worked together on preparing this data, haven't you?

A. Yes, my son has done most of it.

Q. That is what I thought. And this is all the data that you have on this subject that is definitely plotted?

A. No. It is the only data that I have plotted. I have some more data on the subject. I laid it away; I could not back it up. But the data I have all is in the same direction.

Q. This is the most conspicuous example that you have?

A. Yes; that is the only one where the vessel, the position of the vessel was taken every 15 seconds.

Q. The others you have got from that research have longer periods of time?

A. Most of them had two observations, one about the middle of the distance and one at the end; some

(Testimony of James Dickie.)

had one only at the end.

Q. Now you have testified if the "Selja's" engines at 3 o'clock were making 40 revolutions, and remained at 40 until 3:05, when they are put at 20, and remained at 20 until 3:10, when they are stopped, and remain stopped until 3:15, that with a slip of 6.46 per cent she would travel in those 15 minutes 6270 feet; that is correct, isn't it?

A. That is as near correct as it can be got.

Q. You have no difficulty computing the first minutes, have you?

A. No, no difficulty the first five minutes.

Q. What do you make the first five minutes?
[383—263]

A. I do not remember now.

Q. Just compute it right now, will you please?

A. I am not quick at figures. Let me see the question.

Q. I will put the question to you separately so that you can understand and there will be no confusion about it. What would she run in five minutes at 40 revolutions with a slip of 6:46 per cent?

A. Hold on; let me get it. Give me the question.

Q. You see this is the first element in your computation there:

A. Up to 3:05. I do not have the pitch of the wheel.

Mr. McCLANAHAN.—Q. You have got it in the data which was given you.

A. Yes, I know. I do not care to figure it out in the courtroom.

(Testimony of James Dickie.)

Q. 6 knots is the speed, Mr. Dickie, if that is what you are after, 40 revolutions. A. 6 knots.

Mr. DENMAN.—Q. The “Selja’s” distance was logged and found to be 6 knots on 40 revolutions.

A. Put your questions in writing and I will figure them out, slowly.

Q. Then I will put a very simple question to you. You answer all these questions because—

A. Because they were figured out slowly.

Q. You mean figured outside the courtroom?

A. Outside the courtroom.

Q. Then you simply brought in the answers?

A. In the answers that I had figured out.

Q. Mostly by your son?

A. No. The slip and all that sort of thing I figured them out all nearly myself.

Q. Some of them you did not figure?

A. Some of them I did not figure, some of them later ones.

Q. Some you took from— [384—264]

A. (Intg.) Some I took for granted because I know they were about right by inspection.

Q. Then really the result of your composite work, as most engineering problems, the working of most engineering problems is the result of that composite work? A. Yes.

Q. I will put this simple question to you; this ought not to confuse you. How many feet would she make in five minutes running at six knots an hour?

A. That is the 12th?

Q. It is half a knot, isn't it?

(Testimony of James Dickie.)

A. Half a knot, yes.

Q. So that the first figure in your 15-minute calculation, the first five minutes you calculate that she went 3040 feet, don't you?

A. Something like that.

Q. Now, in the second five minutes she had a momentum of six knots at the beginning of the period?

A. No.

Q. She stopped her engines at the end of five minutes; she had a 6-knot momentum?

A. Wait a minute. Then remains until 3:05.

Q. She would have a 6-knot momentum, and a thrust of 20 revolutions?

A. Then the 20 revolutions is put in.

Q. So she would have a thrust of 20 revolutions during the entire 5-minute period, but would start with a 6-knot momentum?

A. She would not have a thrust of 20 revolutions; the thrust would be the opposite way.

Q. Then I am using the wrong term. Her propeller would be driving her at the rate of 20 revolutions.

A. It would not be driving her, it would be retarding her.

Q. Then your theory is—

Mr. PAGE.—You made a mistake in the original question.

Mr. DENMAN.—Q. Suppose a vessel is going at 6 knots speed. [385—265] A. Yes.

Q. And you stop your engines entirely.

A. Yes.

Q. She would make a certain rate of speed during

(Testimony of James Dickie.)

the next 5 minutes?

A. Yes; gradually reducing.

Q. Gradually reducing? A. Yes.

Q. Now, suppose instead of stopping the engines entirely you run your propeller at 20 revolutions, would she stop faster or slower?

A. She would stop a little slower.

Q. And your theory is that the 20 revolutions would retard rather than help the ship during that period?

A. Yes, during the first portion of that period, yes.

Q. Well, until she had lost the entire 6-knot momentum; is that it?

A. Until she had lost the 6-knot momentum.

Q. Well, we have experts on both sides. Have you tried that, as a matter of fact, on a ship, Captain, to see whether— A. (Intg.) No.

Q. This is merely your expert opinion at this moment?

A. Well, that is what you call a fact, because the propeller is going slower than the vessel; consequently it retards the vessel.

Q. If she was not going at all then it would be retarded more? A. A little more.

Q. Well, according to that, then your statement is not correct? A. My statement is correct.

Q. You just stated that she would lose her 6-knot speed faster if the propeller were going at 20 revolutions than if she was not.

A. I did not say that.

Q. All right; you did not mean to say that?

(Testimony of James Dickie.)

A. I did not say that. [386—266]

Q. Well, you did not mean to say that. If you did, it was a mistake, a misunderstanding.

A. I did not say that.

Mr. McCLANAHAN.—Q. May I interrupt you, Mr. Dickie? Let me put two situations to you. This is the first one; a vessel is going at six knots and her engines are then stopped and remain stopped for five minutes. That is the first situation. Have you got that clearly in your head? A. Yes.

Q. Now, the other one is, she is going at six knots and her engines are put at 20 revolutions or three knots, and she runs for five minutes.

A. She would run a little farther with the engines going 20 revolutions than when they have stopped altogether.

Q. Run a little farther? A. Yes.

Q. Would she reach a three knot speed sooner with the engines going three knots than she would if they were stopped? A. No.

Q. Is that it? Would it be the same?

A. No. It would take a little longer.

Q. With the engines going, it would take longer to reach a three-knot speed?

A. Take longer to slow down with the engine slowed down.

Mr. DENMAN.—Q. About how much longer?

A. I do not know. It is a figurable thing, but a very intricate thing to figure.

Q. It would be quite a little—

A. Yes, it would be a little.

(Testimony of James Dickie.)

Q. At the 20 revolutions.

A. At the beginning, it would make very little difference, but it would make a good deal of difference at the end.

Q. As it began losing its six knots speed, it would help very much? [387—267]

A. It would help considerably.

Q. That is what I want to get. I thought you misunderstood me. Now, as I understand it, in figuring this second period, I notice you get the same result as Mr. Heynemann, I believe, and your son.

A. About the same result, because we figured it up in a bunch, all together.

Q. Figured it all together. Then in that second period, as I understand it, from 3:05 to 3:10, you presume that she was going at an average of $4\frac{1}{2}$ knots. That is correct, isn't it?

A. I don't remember if that is correct, or not?

Q. Well, you figured it all together, and the conclusion you came to was, was it not, that all the six knots speed would be spent between 3:05 and 3:10, and she would drop down to three knots? A. Yes.

Q. And then, don't you recollect now, that you calculated that average speed at $4\frac{1}{2}$ knots?

A. I don't remember that, because these are extremely intricate things to figure, extremely intricate.

Q. Well, it would not be intricate if you simply took an average between 3 and 6?

A. No, that would be easy.

Q. Isn't that what you did?

(Testimony of James Dickie.)

A. I don't remember if that was what we did, or not.

Q. You don't know whether it is intricate or not?

A. I know it is intricate, because I worked a long time at it.

Q. Well, if it was intricate and you worked a long time at it, you could not have taken the average between 6 and 3?

A. We did not take an average; we worked at it.

Q. Now, Mr. Heynemann tells me that you took an average between 6 [388—268] and 3, but assumed as a result of calculation that she would, within five minutes, just spend the difference between 6 and 3 knots.

Mr. McCLANAHAN.—No. I beg to correct the counsel. Mr Heynemann did not say she would just spend the difference. What he did say was that at the end of 5 minutes she would have reached a three knot speed, and he declined to say when she reached it.

Mr. DENMAN.—But he did say that, as a result of that calculation, they would travel in the five minutes between 3:05 and 3:10 one-half the difference between 3 and 6, or $4\frac{1}{2}$ knots.

Q. You could not have obtained the result in any other way than by assuming that in the five minutes she would just drop from 6 knots to three knots?

A. If you want that, just put it in writing, and give me time to figure it out, and I will give it to you.

Q. Now, I do not want to bother you here, but will you or your son prepare for me a complete list of the

(Testimony of James Dickie.)

formuli and authorities used in getting at these results? A. Yes, I can do that.

Mr. McCLANAHAN.—Q. Haven't you given that list already, Mr. Dickie? A. I don't know.

Q. Haven't you given them it? A. What list?

Q. This list that he is asking for, the formuli?

A. I don't know whether my son has given it or not.

Q. Have you given it?

Mr. DENMAN.—No, it is not in the testimony.

A. No, I have not given it.

Mr. McCLANAHAN.—Q. Of what does it consist?

A. Well, it is quite a lengthy formula. [389—269]

Q. What formula are you referring to?

A. I am referring to Hecht's formula, published by the Institution of Naval Architects.

Mr. McCLANAHAN.—Is that what you want, Mr. Denman?

Mr. DENMAN.—Q. There must be quite a number of formuli used?

A. There is two or three pages of them. They are something that a man has to sit down in quiet and figure on.

Q. I understand that. My questions to you regarding the statement there were to get at the general results. A. Yes.

Q. Mr. Dickie, if the "Beaver" struck the "Selja" at right angles, and the scars on the "Beaver" were in the condition that has been described to you, would that show that the "Selja" was crossing the

(Testimony of James Dickie.)

“Beaver’s” bows at right angles astern at the moment of the collision?

A. It would show that she was going astern beyond question.

Q. It would show that the “Selja” was crossing the “Beaver’s” bows going astern at that time?

A. She could not be crossing the bows if she was going astern.

Q. If she were at right angles to her, she would be, would she not?

A. Oh, yes; if she was crossing the bows going stern first, yes.

Q. And at right angles to her, if the blow was at right angles?

A. If the blow was at right angles; there is two ways in which you can account for blows; you can account for hitting at the angle which the blow shows or you can account for its striking at right angles by the “Selja’s” going astern.

Q. That, of course, would indicate that she was crossing the bows of the “Beaver” and going astern at the moment of impact?

A. It would be that she was nearly across. [390—270]

Q. Nearly across?

A. Because, hitting the forward end of the “Selja”; that is quite a distance from the stern.

Q. Presuming, according to your statement, she had—

A. (Intg.) She had gone astern about 100 feet.

Q. According to your theory.

(Testimony of James Dickie.)

A. According to the calculation, from the testimony, we are correct; so that she would have been nearly in the middle when she started to back, the "Selja." The "Selja" must have been nearly in the middle, that is, if the "Selja" had laid still, she would have been hit about amidships, a little abaft of amidships.

Q. If struck at right angles it would indicate that the "Selja" was going astern? A. Yes.

Q. And crossing the bows of the "Beaver" at about right angles?

A. At about right angles. Generally you do not talk about a ship crossing the bow by going astern.

Q. Well, but it is a fact?

A. It is a fact that that is crossing the bow.

Mr. McCLANAHAN.—I want to ask Mr. D. W. Dickie a question.

Q. I refer you to Libellant's Exhibit 14, which is the model of the "Beaver," and pointing to a square about amidships, ask you what that is.

A. That square is intended to locate the chief engineer's room.

Q. On the "Beaver"?

A. On the "Beaver," yes.

Q. That is drawn to scale, is it?

A. That is drawn to scale, yes.

Mr. DENMAN.—Q. Have you been on her?

A. Only to see her.

Q. Recently?

A. No. When she first came out.

Q. How long ago is that?

(Testimony of James Dickie.)

A. Some little time ago; I don't remember.

Q. A couple of years?

A. No, it was not that long. It was—this [391—271] is 1911—yes, about that long. That would be close enough.

Mr. McCLANAHAN.—That is all with Mr. D. W. Dickie.

Mr. McCLANAHAN.—Now, what do you want from these experts?

Mr. DENMAN.—I want what I have asked for.

Mr. McCLANAHAN.—You want from Mr. Dickie, Sr., the formulæ used in computing these speeds and distances.

Mr. JAMES DICKIE.—Do you want the full formulæ?

Mr. DENMAN.—It is all in the book?

Mr. DICKIE.—It is all in the book.

Mr. DENMAN.—Q. Where is the derivation contained?

Mr. HEYNEMANN.—The derivation of the formula is contained in the works of the classification of British naval architecture, Association of Naval Architects, I think it is, in 1888.

Mr. JAMES DICKIE.—Institution of Naval Architecture, in 1888.

Mr. DENMAN.—The book in which it is contained is in the University library. Is that correct?

Mr. JAMES DICKIE.—I do not know whether it is or not. I have my own copy that I used.

Mr. DENMAN.—Q. Could I examine that copy?

Mr. JAMES DICKIE.—Yes, you can have the

copy. Do you want the book?

Mr. DENMAN.—Yes.

Mr. McCLANAHAN.—That is what you want of Mr. Dickie, Sr.

Mr. DENMAN.—Yes.

Mr. McCLANAHAN.—Now, what do you want of Mr. Heynemann?

Mr. DENMAN.—I want him to work out the formulæ of distance and [392—272] speed between 3:05 and 3:10; also the distance she would cover if she stopped her engines at 3 o'clock, or stopped her engines when making 6 knots speed before she dropped to 3 knots.

Mr. McCLANAHAN.—Q. Do you understand that clearly, Mr. Heynemann?

Mr. HEYNEMANN.—You want the distance she would travel at six knots and three knots, independent of the time.

Mr. DENMAN.—And also the time.

Mr. HEYNEMANN.—That is, if she drops from 6 knots to 3 knots at a stated period, the distance she would then travel and the time she would have dissipated the 6 knots speed; is that it?

Mr. McCLANAHAN.—You understand it, Mr. Heynemann?

Mr. HEYNEMANN.—Yes.

Mr. McCLANAHAN.—What do you want from Mr. Dickie, Jr.?

Mr. DENMAN.—All those things I asked for this morning.

Mr. McCLANAHAN.—What is it?

(Testimony of James Dickie.)

Mr. D. W. DICKIE.—What he asked for this morning was the papers with all the multiplication and division and subtractions and additions on that, but I did not do it that way. I did it with a slide ruler, and did not put but the results down on the paper.

Mr. McCLANAHAN.—Have you got those papers?

Mr. D. W. DICKIE.—I have some of them here; the most of them I threw into the waste basket.

Mr. McCLANAHAN.—Have you got here all that you have left?

Mr. D. W. DICKIE.—About all; there may be some lying on my desk down in the office.

Mr. DENMAN.—Are they so grouped that they would be of any value to one checking it up, in order to check it up, or would it [393—273] be necessary to bring an expert to cross-examine you?

Mr. D. W. DICKIE.—That is about the only way, because no man who uses the slide rule would bother to put down anything but the results he gets.

JAMES DICKIE, cross-examination resumed.

Mr. DENMAN.—Q. By the way, let me ask you: Do naval architects, as experts, some to the same disagreements that lawyers and engineers and other experts do? A. Just exactly the same.

Q. That is to say, practically any theory that is advanced will be refuted by another equally well?

A. No, that is not true. On some things they will agree absolutely; for instance, if it is about the pitch

(Testimony of James Dickie.)

of the propeller.

Q. That is, all three of you agreed on that?

A. And about 3,000 would agree just the same.

Q. Do you mean to say that the 3,000 would agree with you on the stopping results?

A. No. They would not all agree, because if there was one more barnacle she would stop a little quicker; you see it would depend on so many barnacles.

Q. Of course, the sea conditions—

A. (Intg.) You have got to assume certain conditions.

Q. The sea conditions, of course, would vary your results?

A. For instance, I have been asked a question many times, what difference it would make in the speed of a vessel if she was not out of the water for three or five years, and I have said, is she going north or south; if she is going to Panama, it would [394—274] make a difference of a knot, whereas if she were going north it would not make a difference of a quarter of a knot; something like that.

Q. It is a question of the difference in the marine growth on the vessel?

A. Yes, in the marine growth.

Q. Now, there is another variable; that is the weather during the different times.

A. The weather varies a good deal; the weather has not as much effect on the "Beaver" as on the "Selja."

Q. Well, how about the conditions of the sea?

(Testimony of James Dickie.)

A. The sea would not have had much effect on the "Beaver."

Q. It would have a very considerable effect, would it not? A. It would have a little effect.

Q. Do you mean to say a vessel going into the sea would not be more affected than a vessel going before it?

A. With these fast vessels it makes but very little difference. For instance, I crossed the Atlantic, and we had a gale of wind, and we only lost a knot and a half that day.

Q. That was how fast a vessel?

A. A 20 knotter.

Q. 20 knotter?

A. The "Majestic." With the "Lusitania," they have got to slow down only when things begin to break.

Q. Do you mean to say that a vessel running before a heavy sea will run just as fast as a vessel running against a heavy sea?

A. They generally go better against the sea.

Q. Go faster against the sea?

A. Go faster against the wind.

Q. I am not talking about the wind, but the sea.

A. When there is wind there is sea.

Q. I know, but there may be a sea and no wind.

A. No such sea as a following sea without wind.

[395—275]

Q. You mean without wind originally causing it.

A. No; but the sea don't travel.

Q. I see. A. It just goes up and down.

(Testimony of James Dickie.)

Q. And then I am to understand—

A. (Intg.) That is, unless you come nearer the land; it only begins to travel when the water gets shallow.

Q. Presuming it is 35 or 40 fathoms?

A. Then it does not travel.

Q. So that a vessel that had a following sea would not be moved at all ahead by the sea, presuming now a calm day, but a heavy swell, a vessel in that would not be driven at all by the sea?

A. No. She would not make as good time, because she would have an up and down motion that would take up part of the power.

Q. But the sea would not drive her ahead at all?

A. No.

Q. Simply move up and down on the water?

A. Simply a moving up and down motion would account for a little diminution of the speed, but with those very fast vessels it makes very little difference. For instance, on the last trip I made on the "Siberia," her stern was going up—the stern was going up 23 feet 4 inches, and that made very little difference in the speed; very slight. That was considerable, the biggest I measured was 61 feet, that was on the "Majestic."

Q. Going into the sea or with it?

A. Going into it.

Q. Of course the model of the vessel would have something to do with that, wouldn't it?

A. Yes. The fast vessels are not slowed down by

(Testimony of James Dickie.)

the sea. For instance, a vessel like the "Selja," with very little sea, would almost stop altogether, and the "Beaver" would go right along. [396—276]

Q. Of course, you never had any actual experience on the "Beaver?"

A. No. I am talking of the "Beaver" type.

Q. You would hardly want to set your knowledge against the log of the vessel and the statements of the captain that managed her for years, would you?

A. Sir?

Q. You would hardly want to set your theory against the log of the vessel and the experience of the captain over a period of years, would you?

A. I would,—I have seen so many logs and I have seen so many statements. A captain told me once he would never tackle me with perjury of this kind, I said, what was the trouble. He said, when I went into the office I was prepared to swear that the ship's decks were full of water all the way down the coast, and when I came out I would have sworn she hadn't a drop of water on deck and the sun was burning the pitch out of the seams.

Q. That is the effect of the expert mind applied to the real facts? A. Yes.

Q. I thought so.

A. It is a distortion of the facts. Unless a man is accustomed to take observation, he don't get the facts correct.

Q. But suppose a man is accustomed to examine a log two or three times a day, do you mean to say that after a long period of 20 years he had not

(Testimony of James Dickie.)

learned how to write the log?

A. No trouble to write the log.

Q. That is not an occupation that requires any peculiar expertness, is it? A. No.

Q. The fact is common seamen learn that very rapidly?

A. Anybody can write the log, but when they begin to talk about revolutions and pitch and one thing and another, they generally get balled up.

(An adjournment was here taken until Friday, June 16th, 1911, at 10 A. M.) [397—277]

Friday, June 16th, 1911.

[**Testimony of L. Heynemann, for Libelant
(Recalled).**]

L. HEYNEMANN, cross-examination resumed.

Mr. DENMAN.—Q. Mr. Heynemann, do you recall the question that I asked you to figure out?

A. The distance travelled from 6 knots to 3 knots without the assistance of the engines.

Q. Without the assistance of the engines?

A. Yes. That was your question. You want now the distance in which the 6 knots was dissipated, that is 3 knots out of the 6 knots was dissipated.

Q. Yes. A. That was your question.

Q. The distance she would run and the time it would take her.

A. It was not a question of time, just a question of distance she would travel, and that distance I have worked out; that distance is about 2080 feet.

Q. About 2080 feet? A. Yes.

(Testimony of L. Heynemann.)

Q. That she would travel in dropping from 6 knots to 3 knots?

A. Yes. In that distance the momentum of 6 knots would be dissipated down to a 3 knot momentum.

Q. I think that is all.

A. I would like to mention about that formula. I would like to have that formula changed which I gave yesterday from memory; I would like to give you the formula that we worked on. That is, the distance is equal to 6.6 times L times $\log V^1/V$. I would like to state that with that formula we determined the distance the vessel would run if she stops her engines at full speed. The other points were determined by points from observations of running distances of other vessels.

Mr. McCLANAHAN.—Q. Mr. Heynemann, in giving your answer 2080 feet, about, what formula did you use?

A. I used a formula [398—278] there that is called the Visviva formula.

Q. Not the Hecht formula? A. No.

Q. Did you use the Hecht formula in estimating any of the low speeds?

A. That is not in drifting, but we did in the backing.

Mr. HENGSTLER.—Q. What is the capital L in that formula?

A. Capital L in the formula quoted is the distance that a vessel will run starting from full speed when backing full speed.

(Testimony of L. Heynemann.)

Q. And V^1 and V are the same quantities that you gave.

A. The same quantities.

Q. That you explained yesterday. A. Yes.

Mr. DENMAN.—Q. Now, how long would it take in time to drop from a 6-knot to 3-knot speed, I mean without the assistance of the 20 revolutions, with the engines stopped?

A. The time, if I remember, was about 240 seconds.

Q. What?

A. About 240 seconds, if I remember correctly.

Q. 240 seconds; that is with the 20 revolutions?

A. That is all it takes to dissipate the 6-knot energy down to 3, or, to put it in other words, to rob the vessel with 6-knots energy of 3-knots energy; that is what you are trying to get at.

Q. Yes. A. Yes.

Q. You made that how many?

A. I think it was about 240 seconds.

Q. That was 4 minutes—just about 4 minutes?

A. Just about 4 minutes, yes.

Q. And that is worked out under that formula that you have given there?

A. That is worked out with the Visviva formula.

Q. Does that formula presuppose that the screw is quiet?

A. That formula only takes into account the momentum; that is simply a theoretical question. It only takes account of the [399—279] momentum

(Testimony of L. Heynemann.)

of the ship, and the question is asked purely in this way, when will a certain amount of momentum be destroyed with a vessel having a certain amount of momentum.

Q. Of course, any added momentum—

A. (Intg.) Any added resistance would decrease that speed, as, suppose you were to hang out a sea anchor.

Q. If, on the other hand, you added power, it would increase it. A. It increases it.

Q. Now, this is the calculation that you refer to as having been made to get the distance between 3:05 and 3:10. A. Yes.

Q. And it was under this formula that you worked? A. Yes, sir.

Q. The 4 minutes you estimated she would go how many feet?

A. About 2080, I think it was.

Q. 2080 feet.

A. It may be a few seconds more than 4 minutes, but that is my recollection about it, 240 seconds.

Q. And then at the 3-knot speed she would go about 300 feet a minute, would she not?

A. A little over; she would go about 304 feet a minute.

Q. Do you recollect the distance that you said the vessel travelled between 3:05 and 3:10 yesterday?

A. I think it was over 2200 feet.

Q. As I understand your testimony now, you would say that in 4 minutes, without any assistance from the propeller whatsoever, she would travel

(Testimony of L. Heynemann.)

2080 feet, and the next minute, at a 3-knot speed, she would travel 304 feet, so that within the 5 minutes between 3:05 and 3:10, according to your present calculation, which you state is made as the result of using the same formula as used the [400—280] first time, the vessel would have travelled 2384 feet; is that correct?

A. No. It was something like 2200 and odd.

Q. I know it was about 2200 and odd yesterday, but to-day you say in 4 minutes, you say you get it from using the same formula, that in 4 minutes you would travel 2080 feet, and in the next minute under a 3-knot speed of 20 revolutions she would travel 304 feet.

A. You do not state the case correctly; she travels simultaneously; there are two simultaneous actions there, the one is going at a 3-knot rate, and the other effect is to destroy the 6-knot momentum.

Q. Now pardon me. A. You can't segregate—

Q. I am not asking you to segregate it. You just stated that in 4 minutes she would run—

A. (Intg.) About 4 minutes.

Q. About 4 minutes, she would run about 2080 feet. That is what you stated, isn't it?

A. Under what conditions?

Q. If she has a 6-knot speed. A. Yes.

Q. And you stopped her engines. A. Yes.

Q. Now, she would run 2080 feet in 4 minutes.

A. In about 4 minutes.

Q. Now, if she is run another minute at 3-knot speed. A. Yes.

(Testimony of L. Heynemann.)

Q. With the engines going, she would run 304 feet further, would she not? Is that correct?

A. Just wait a minute.

Q. She has exhausted all her 6.

A. Yes, but you are putting the case now entirely different.

Q. Follow me now, Mr. Heynemann; if she run another minute at 3 knots speed she would run 304 feet? A. I will state—

Q. (Intg.) Would she run 304 feet?

A. I will state a 3-knot rate equals about 304 feet.

[401—281]

Q. Now, if at the end of 4 minutes the 6-knot rate is entirely dissipated— A. (Intg.) Yes.

Q. And she has 20 revolutions on—

A. (Intg.) Yes.

Q. She will run at 3 knots, won't she?

A. She will run at 3 knots.

Q. And in that minute she will run 304 feet.

A. If the time is exactly as stated, 4 minutes,— I do not remember—but if it is, I will say that her rate of speed at 3 knots is 304 feet a minute.

Q. Now, you say that in dropping the 6-knot speed she would run 4 minutes and cover 2080 feet.

A. Yes.

Q. Then you would get in 5 minutes under those circumstances 2384 feet? Isn't that correct?

A. Well, not under those circumstances, no, you would not.

Q. Why not?

A. Because you are putting now two entirely dif-

(Testimony of L. Heynemann.)

ferent cases. The one case is a case where a vessel makes 6 knots and drops down to 3, and then makes a certain speed or covers a certain distance; and in the other case you take out during the time the vessel has run her 3-knot momentum—you take out the action of the propeller during that period.

Q. But you said yesterday the action of the propeller would be to increase the distance she would run?

A. Yes, but not in the way you seem to have it fixed in your mind. To a certain extent from the very moment that the propeller drops from 6 knots down to 3 knots that propeller is a drag.

Q. It would not be any more of a drag than if it were standing still, would it? A. Oh, yes.

Q. You said yesterday that it would assist the rate of speed?

A. I think it would assist the rate of [402—282] speed. But if you take out the simultaneous actions of the loss of the momentum and the operation of the three-knots speed, why then you present a different proposition to me.

Q. That of course is a proposition that you had, when you calculated the distance she would run between 3:05 and 3:10.

A. The proposition was a simultaneous proposition.

Q. And you made that 2250 feet.

A. I forgot just what I did make it.

Q. Let me ask you this: Do you mean to say that

(Testimony of L. Heynemann.)

if she stopped her engines entirely at 3:05 and ran to 3:09, and then hooked on at 20 revolutions and ran to 3:10, that she would cover more ground than she would if the 20 revolutions ran during the entire 5 minutes? A. No.

Q. She would cover less ground?

A. I think so.

Q. All right. But you do make it that if stopped her engines entirely—

A. (Intg.) I will tell you why I say I think she would cover more ground, because if the vessel has got down to the 3-knot rate, and then its propeller is operating at a 3-knot rate, why then the propeller has ceased to be a drag. You can easily, if you will take this point and revolve it in your mind, Mr. Denman, imagine what took place; when a vessel, say backs; supposing a vessel backs; she is running full speed, and now the vessel starts in to back. You can easily see that there is a very complicated situation arises there and is put up. Now, to a certain extent the action is a sort of a backing action, because the vessel is travelling at one rate and the propeller is travelling at another, and to a certain extent there is an interference there. [403—283]

Q. But less of an interference when the propeller is going ahead than if stopped? A. Yes.

Q. You could quite well conceive then that the rule would be laid down by maritime experts that the engines should be stopped as soon as a whistle was heard ahead for the checking effect of the still pro-

(Testimony of L. Heynemann.)

propeller—you could imagine that rule being passed, couldn't you?

A. I should think that would depend upon the conditions.

Q. I mean to say, if the desire was to stop the vessel going at a certain rate of speed and bring it down to a lower rate of speed, you could imagine the rule being laid down that the engines should stop so that the checking effect of the propeller would stop the vessel—that would be a conceivable thing?

Mr. McCLANAHAN.—I object to that as calling for the conclusion of the witness on the construction of the minds of the legislature in framing a law.

Mr. DENMAN.—Just strike that out.

Q. The propeller at rest would stop the vessel much more than the propeller going ahead, would it not?

A. I would not be so very ready to answer that question, either; that would depend on other conditions; that would depend largely on the engine.

Q. On the engine?

A. Yes, on the engine. Now, suppose that you have an engine with very little friction and you close your throttle and open your air-cocks so that the engine can work very freely; then your propeller will turn your engine, and in that way create, under certain conditions, really less resistance than if the engines were put from one rate of speed down to another rate of speed, because that churns the water and causes a grating motion at the [404—

(Testimony of L. Heynemann.)

284] stern of the vessel; and just what the effect of that is is difficult to foretell. It is a knotty question.

Q. Well, then, you cannot say that the propeller at rest would check the vessel more than the propeller going at 20 revolutions?

A. I would say we know.

Q. Under ordinary conditions?

A. I would say under ordinary conditions I would imagine it would.

Q. You said yesterday that it would be a very considerable difference in the two.

A. Well, I think it would.

Q. Well, that sounds like common sense, doesn't it?

A. Yes, it sounds like common sense.

Q. There is nothing in your scientific knowledge that you know that would contradict that, is there?

A. No.

Mr. DENMAN.—That will be all now.

Mr. McCLANAHAN.—That is the libelant's case.

(An adjournment was here taken until to-morrow morning, Saturday, June 17th, 1911, at 11 A. M.)
[405—285]

Saturday, June 17th, 1911.

[**Testimony of Robert E. Judson, for Respondent.**]

ROBERT E. JUDSON, called for the respondent, sworn.

Mr. DENMAN.—Q. Mr. Judson, what is your occupation? A. Mariner.

(Testimony of Robert E. Judson.)

Q. How long have you been a mariner?

A. 15 years, sir.

Q. How old are you now? A. 32.

Q. Were you on the steamer "Beaver" at the time of her collision off the Golden Gate?

A. Yes.

Q. What were you doing on her?

A. Third officer.

Q. You were third officer? A. Yes.

Q. Where were you at the time the collision occurred? A. I was in my bunk.

Q. Was it your watch below? A. Yes.

Q. Tell me, did you go on deck after the collision?

A. Yes.

Q. Where did you go?

A. I went to my boat immediately.

Q. You went to your boat. A. Yes.

Q. What did you do there?

A. Started to clear the boat away.

Q. Started to clear away the boat. A. Yes.

Q. Did you clear it away?

A. Well, I got it partly cleared away and Captain Kidston told me not to lower it, not to let it go, did not need it.

Q. What did you do then?

A. Why then I went to the port where they were taking the crew of the "Selja" aboard and assisted them in taking the crew aboard the ship.

Q. What did you do then.

A. After they were all aboard I went up on the bridge. I went forward first and had a look at the

(Testimony of Robert E. Judson.)

bow with the first officer, and then I went up on the bridge and relieved the second officer. [406—287]

Q. Relieved the second officer, at whose request, if anyone's?

A. It was the first officer who stands the watch from 4 to 8, and just about 4 o'clock I went to take his watch so that he could look after the ship, you know.

Q. Had the vessel started back at that time, to San Fransicco?

A. Yes; she was under slow bell.

Q. She was just under slow bell? A. Yes.

Q. Just beginning to return?

A. Well, just about. I would say she had been running probably about five minutes, I should say.

Q. When you went up forward on the bow to look at the bow did you then at that time see Point Reyes?

A. I seen Point Reyes before that.

Q. About what direction was Point Reyes from you?

A. Well, I would not say exactly, in a northerly direction.

Q. Northerly direction? A. Yes.

Q. Could you see the northerly point of Point Reyes, the north end?

A. I could see the lighthouse and all.

Q. Could you see the south end? A. Yes.

Q. What direction were you from the south end of Point Reyes?

A. Well, we was to the southward of it.

(Testimony of Robert E. Judson.)

Q. Southward of it? A. Yes.

Q. And about how far off would you say you were from the lighthouse?

A. From Point Reyes lighthouse, well, between 5 and 6 miles.

Q. Between 5 and 6 miles? A. Yes.

Q. How far from the south end?

A. Probably about 4½ miles.

Q. Could you measure it accurately as 4½ miles?

A. No, I would not say I measured it accurately; just looked at the points when I came on the bridge. I did not take any bearings. [407—288]

Q. Now this was before the vessel had started back?

A. Well, just about the time she started back.

Q. Just about the time she started back?

A. Yes.

Q. Then you went up on the bridge, did you?

A. Yes.

Q. How long did you stay on the bridge?

A. Well, I stayed there until we got alongside of the dock.

Q. Until you got alongside of the dock?

A. Yes.

Q. Did Captain Lie come up on the bridge while you were there?

A. The captain of the Norwegian vessel, yes.

Q. Did you hear any conversation between Captain Lie and Captain Kidston about the occurrences on Captain Lie's vessel prior to the collision?

(Testimony of Robert E. Judson.)

A. In that he said she was at a standstill.

Q. How long? A. Over 10 minutes.

Q. What else occurred in that conversation. Give us the whole conversation, just what happened?

A. Well, the captain came on the bridge. Captain Kidston said, "I see you have dry clothes on." He said, "Yes, I have dry clothes on," and the captain told him he was very sorry he sunk his ship. And that is the time that Captain Lie said that he had been at a standstill there for 10 minutes taking soundings.

Q. Did he say what soundings he had taken?

A. 35 fathoms.

Q. 35 fathoms. A. Yes.

Q. Was there any thing further said in that conversation concerning the whistle?

Mr. McCLANAHAN.—I object to this method of examination.

Mr. DENMAN.—Q. Was there anything further said in the conversation—

Mr. McCLANAHAN.—Let the witness state what the conversation was, and if you exhaust his memory— [408—289]

A. That is about all I remember of the conversation.

Mr. DENMAN.—Q. Was there anything said, anything further said in that conversation regarding the whistles exchanged between the vessels?

A. Only Captain Lie said that he heard our whistle for about 15 minutes, and that he knew it was either

(Testimony of Robert E. Judson.)

the "Bear" or "Beaver," or he thought it was either the "Beaver" or the "Bear."

Q. How long had you been on the "Beaver" at that time?

A. About 4 or 5 months, I believe.

Q. About 4 or 5 months?

A. Yes, I think I was about three months on her.

Q. While you were on the bridge had you ever seen the "Beaver" while she was going ahead put full speed astern? A. Yes.

Q. What is the effect upon the course of the vessel under those circumstances?

A. The course of it?

Q. The effect; what is the effect on the course of the vessel of putting her full speed astern when you are going ahead through the water?

A. It stops and swings her bow.

Q. Which way does it swing the bow?

A. It swings the bow to the starboard.

Q. How soon does it begin to swing—does it swing rapidly or slowly? A. Very rapidly.

Q. Now, suppose you do not put your propeller astern but simply put the helm hard-a-port when you are going ahead through the water at say 12 knots speed?

Mr. McCLANAHAN.—I object to that until the witness has qualified as to that.

Mr. DENMAN.—Q. Have you had occasion to put the helm from one side to the other when you were going at 12 knots speed through the water?

A. Yes. [409—290]

(Testimony of Robert E. Judson.)

Q. Did you notice the effect on the vessel of putting her helm from one side to the other, when going ahead? A. Yes; it swings very rapidly.

Q. In other words, she responds readily to her helm? A. Yes.

Q. Would she respond more or less readily when she is light in the water?

A. Well, when she is light—

Q. (Intg.) Would she respond more or less readily? A. More.

Q. More readily? A. Yes.

Q. What was the condition of the sea on that day?

A. Well, there was a heavy swell.

Q. Relatively speaking, how heavy was the swell?

A. Well, I call it more than a moderate swell.

Q. What was the condition of the bar?

A. Well, the bar was breaking slightly when we went out.

Q. How was it when you came back?

A. Well, it was a very heavy bar.

Q. A very heavy bar when you came back?

A. Yes.

Q. Had you ever seen the bar breaking without a wind blowing before? A. No, sir.

Q. How many years have you been travelling over the bar? A. Fifteen years.

Q. How many years? 15 years? A. Yes.

Cross-examination.

Mr. McCLANAHAN.—Q. Mr. Judson, are you in the employ of the San Francisco and Portland Steamship Company, now? A. No, sir.

(Testimony of Robert E. Judson.)

Q. When did you leave?

A. In February I think it was.

Q. February of this year? A. Yes.

Q. Soon after the collision?

A. Well, the collision was in November. [410—

291]

Q. What day in November was the collision?

A. The 22d I believe it was.

Q. The 22d of November?

A. I would not be sure of the date.

Q. Why did you leave?

A. Why I left? Because I had a better position.

Q. What is your position now?

A. Second officer.

Q. Who with? A. With Bowes and Andrews.

Q. On what vessel?

A. The "Tahoe," a steam schooner.

Q. Running where?

A. To Gray's Harbor and Portland.

Q. How long had you been on the "Beaver"?

A. About three months I think; I would not be sure as to the dates. I don't know what date I joined her.

Q. You mentioned something about five minutes, Mr. Judson, as being a time when you did something on the "Beaver" after she had started for San Francisco, after the collision. What was that something? Was that the time when you noticed Point Reyes, about five minutes after she had started back?

A. No; that was the time I came on the bridge,—

(Testimony of Robert E. Judson.)

I knew it was Point Reyes.

Q. You mentioned five minutes as being some period of time; was that the time after you had started back to San Francisco that you saw Point Reyes?

A. I say she had been running about five minutes when I came on the bridge.

Q. What time was that?

A. Well, that was somewhere around 4 o'clock, within a few minutes of 4; probably 10 or 5 minutes of 4 then.

Q. 10 or 5 minutes of 4 then? A. Yes.

Q. You started back?

A. No, when I came on the bridge; it was probably 5 minutes before that, might have been 10 minutes before, when we started back.

Q. Have you examined the logs, either the engine room log or the [411—292] bridge log of the "Beaver" since the collision? A. No.

Q. You don't know what those logs show?

A. No.

Q. As the time you started back? A. No.

Q. Where were you when you saw Point Reyes?

A. Just about the time I came up from the port where we had been taking the "Selja's" crew aboard?

Q. The crew were on board at that time?

A. Supposed to be.

Q. Had you gotten your boats up out of the water?

A. We hoisted our boats up again into position.

(Testimony of Robert E. Judson.)

Q. Then you stood by and then went forward?

A. Then I went forward on the bow.

Q. And then it was that you saw Point Reyes?

A. Well, just about that time. I was looking back from the bow to the Point.

Q. How long was that? A. A minute or two.

Q. Didn't you go there to examine the condition of the bow? A. Yes.

Q. Could you do that in a minute or two?

A. The chief officer was there and I walked forward with him.

Q. And stayed with him while he made the examination?

A. No. He had been forward before that, and he went forward again and went down into the hold; he went down and I went up on the bridge.

Q. Who told you to go forward? A. No one.

Q. No one? A. No.

Q. When did your watch commence on the bridge?

A. It was supposed to commence that night at 8 o'clock; you see the chief officer had the 4 to 8 watch, but the second officer had been on until 4 o'clock, you see. [412—293]

Q. You relieved the second officer?

A. I relieved the second officer and the chief officer looked after the ship.

Q. So that it was about 4 o'clock you were on the bridge?

A. Somewhere around there, I could not say exactly.

Q. When you went there you went there to relieve

(Testimony of Robert E. Judson.)

the second officer? A. Yes.

Q. Of course, you do not pretend to be accurate in these distances suggested? A. No.

Q. From Point Reyes lighthouse?

A. No. It is a matter of my judgment, that is all.

Q. The fog was still with you at the time you observed Point Reyes?

A. Well, it was foggy; still foggy, but very light back in the hills.

Q. It was lifting then as compared to the time of the collision? A. Oh, yes.

Q. Very much different? A. Yes.

Q. How long after the collision did it begin to lift?

A. Well, I did not pay much attention; probably half an hour afterwards.

Q. Your vessel after the collision lay there under stopped engines, did she? A. Yes.

Q. Did not anchor? A. No, sir.

Q. How soon after the collision did the "Selja" sink?

A. Well, I could not say that because I was in my bunk, you know, when she struck. I don't know exactly what time she struck. She sunk after I came on deck I should say about 7 or 8 minutes probably.

Q. You came on deck after the collision?

A. Yes.

Q. Was Captain Lie on the bridge when you came there? A. No.

(Testimony of Robert E. Judson.)

Q. How soon after that did he come on the bridge?

[413—294]

A. Probably 15 minutes or so.

Q. Had you seen him before?

A. I was down at the port when he came aboard.

Q. You knew the captain when he came on board?

A. I did not know it was the captain until after some of the sailors said who he was down there.

Q. Did you know it was the captain when he came on the bridge? A. Yes.

Q. Did he have on dry clothes then? A. Yes.

Q. So that he had changed his clothes since coming on the "Beaver"? A. Yes.

Q. Do you know where he went to change his clothing? A. No, I do not know.

Q. Do you know whose clothes he changed to?

A. No, I do not know.

Q. What were your duties on the bridge?

A. At all times?

Q. At this particular time.

A. Well, my duty was to stand there and see the ship kept properly on the course and look after the telegraph in case the captain wanted to maneuver the ship in any way.

Q. Did you give orders on the telegraph?

A. Oh, no.

Q. Who did?

A. The captain gave orders on the telegraph if he was on the bridge.

Q. And then you executed the order? A. Yes.

Q. That is you were there to receive the order

(Testimony of Robert E. Judson.)

from the captain? A. Yes.

Q. You were attending to your duties were you, at that time? A. Yes.

Q. And it was not one of your duties to pay attention to any conversation between the captain of the "Beaver" and the captain of [414—295] the "Selja"?

A. No. It was not my intention to stand there particularly and listen to them.

Q. You happened to hear this conversation?

A. Yes.

Q. How far away were you at that time from the two men as they were talking?

A. Probably 8 feet.

Q. How many feet? A. 7 or 8 feet.

Q. Were either of the men excited?

A. No. I know Captain Kidston was not a bit excited, but Captain Lie was—I don't know whether he was shaking from the cold or not—he was a little bit nervous.

Q. He did not talk in an excited tone of voice, did he?

A. No, I would not call it excited exactly; a little bit loud probably.

Q. Will you tell me what you heard first of that conversation?

A. The first thing when Captain Lie came on the bridge Captain Kidston says, "I see you have dry clothes on."

Q. That is the words, "I see you have dry clothes on"?

A. Yes.

(Testimony of Robert E. Judson.)

Q. What did Captain Lie say to that?

A. He said he had dry clothes on, and Captain Kidston said he was sorry—

Q. Just a minute. I want to take up, Mr. Judson, the words used by each man, as far as you remember. The first words used by Captain Kidston were “I see you have dry cothes on.” You remember that.

A. Yes.

Q. Now, then, Captain Lie said what?

A. Yes, he had dry clothes on.

Q. What did Captain Kidston say to that?

A. Then he told him he was very sorry he sunk the ship.

Q. Those were his words?

A. The Captain says, “I am sorry I sunk your ship.”

Mr. DENMAN.—Q. Those are his exact words, or the substance of [415—296] the conversation?

A. Those are the exact words, I remember that.

Mr. McCLANAHAN.—Q. I want the exact words, as far as you can give them. A. Yes.

Q. What did Captain Lie say to that remark of the Captain?

A. Well, he said he had been laying there at a standstill for over 10 minutes, and been taking the soundings, and he got 35 fathoms, and then he said he knew it was either the “Beaver” or the “Bear,” or he said he heard the whistle 15 minutes or over 15 minutes, and he knew it was either the “Beaver” or “Bear.”

Q. All this was in answer to Captain Kidston’s

(Testimony of Robert E. Judson.)

remark, "I am sorry I sunk your ship"? A. Yes.

Q. And you have given his words, as far as you can?

A. Those are the only words that I will swear to that Captain Kidston said.

Q. How far can you swear as to what Captain Lie said, that is to the exact words, in answer to Captain Kidston's remark "I am sorry I sunk your ship"? Give us what you can of his exact words.

A. Well, he said he had been laying at a standstill for over 15 minutes and that he had been taking soundings and gotten 35 fathoms. Now, I won't be sure about this, I think he asked where the "Bear" was, and he said he knew it was either the "Beaver" or "Bear" that had been whistling.

Q. Those were the exact words that you remember? A. Yes.

Q. You said 15 minutes; you did not mean that, did you? A. That he heard the whistle?

Q. That he had been at a standstill?

A. No, I said over 10 minutes.

Q. You meant 10 minutes?

A. I said "over 10 minutes."

Q. Over 10 minutes? A. Yes.

Q. What did Captain Kidston say—that was all Captain Lie said at [416—297] that time?

A. Yes.

Q. What did Captain Kidston say to that?

A. Well, there was some more conversation that I did not hear then because I had to move away.

Q. Did they move away from you?

(Testimony of Robert E. Judson.)

A. No, but I had to move away to look at the compass.

Q. So you don't know what Kidston said to this last statement of Lie's? A. No.

Q. Did he say anything?

A. Well, they were talking there.

Q. You were at the same place at the time?

A. No, I had walked over to the compass then.

Q. Have you seen Captain Kidston since the collision? A. Yes.

Q. When did you last see him?

A. I saw him this morning.

Q. Did you recite to him your version of the conversation?

A. Well, he asked me about the same questions he had some time before—he asked me some time after the collision what I had heard of the conversation.

Q. Now, please answer that. Did you recite to him this morning what you have recited to me now?

A. About the same, yes.

Q. Where was this meeting with Captain Kidston?

A. On California Street.

Q. In California Street?

A. No, on California Street.

Q. How did you meet him, by accident?

A. By appointment.

Q. Whereabouts was he on California Street?

A. On California Street across from the Merchants' Exchange.

Q. Is that Mr. Denman's office?

A. In the street there.

(Testimony of Robert E. Judson.)

Q. You met him in Mr. Denman's office?

A. No; I met him on California Street. [417—
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Q. Did you have an engagement to meet him there? A. Yes.

Q. Rather than in Mr. Denman's office?

A. No. I had an engagement in Mr. Denman's office but I met Captain Kidston outside.

Q. By appointment? A. Yes.

Q. Whereabouts, downstairs? A. Yes.

Q. And you two at that time went over this conversation that Captain Kidston had with Captain Lie on the bridge? A. Yes.

Q. Did you agree?

A. What do you mean by agree?

Q. Did you agree in what the conversation consisted of?

A. Well, I just recited it and he did not say anything about what had been said, or anything like that; he says "that will do."

Q. That will do? A. Yes.

Q. That is, you did agree, then?

A. Well, I suppose so.

Q. He had no fault to find with what your version of the conversation was? A. Not a bit.

Q. Is that the only time you have spoken about this to Captain Kidston?

Mr. DENMAN.—He said he spoke to him once before.

Mr. McCLANAHAN.—Q. Is that the only time?

A. No. Probably two months after the collision I

(Testimony of Robert E. Judson.)

seen Captain Kidston on the ship, he came on board.

Q. Two months after the collision? A. Yes.

Q. Were those the only two times—

A. About a month after.

Q. Were those the only two times you have spoken to him about this conversation?

A. About the conversation, yes; but I saw him one day last week and he told me he would like to have me on this trial.

Q. I am speaking of the conversation, now.

A. Yes, that was the only two times. [418—299]

Q. When you saw him last week he knew that you knew the conversation or had heard the conversation? A. Yes.

Q. And he got that knowledge from you about a month after the collision? A. About that, yes.

Q. How did that first conversation between you and Kidston with reference to this conversation that took place on the bridge come up?

A. Why, I met him on the dock there one day and I was on duty, and he asked me what I had heard when Captain Lie was on the bridge.

Q. He asked you if you had heard the conversation that took place on the bridge?

A. He asked me first if I remembered Captain Lie's coming on the bridge and I said yes, and he asked me what I heard.

Q. Did you then tell it? A. Yes.

Q. Just as you told it here, now?

A. Yes, exactly.

Q. To me? A. Yes.

(Testimony of Robert E. Judson.)

Q. Under this cross-examination? A. Yes.

Q. Did Kidston take any note of what you said at that time, I mean any written memorandum?

A. Yes.

Q. He took it down in writing? A. Yes.

Q. Did you see the writing after it was taken down?

A. Yes, I signed a statement because I told him I was thinking of leaving the company.

Q. You did sign a statement at his request?

A. Yes.

Q. Did you keep a copy of the statement?

A. No.

Q. Did he say when you signed this statement that that agreed with his understanding of the conversation?

A. No, he did not say anything more about it.

Q. Did he demur to it? Did he object to it?

A. No. [419—300]

Q. It seemed to meet with his approval?

A. Yes.

Q. What kind of a statement was that; was it one that he prepared or was it already prepared?

A. Well, I guess he had it prepared after I told him.

Q. It was prepared for you to sign? A. Yes.

Q. At the time he met you? A. Yes.

Q. And contained the conversation on the bridge?

A. Yes.

Q. He presented it to you and asked you if it was all right and you said it was and signed it?

(Testimony of Robert E. Judson.)

A. Yes.

Q. Do you know who prepared that statement?

A. No.

Q. Mr. Judson, when was this conversation down at the dock when you signed this statement? You said it was about a month after the collision.

A. I should say it was about in December some time.

Q. In December some time? A. Yes.

Q. Can you fix it a little closer than that?

A. I cannot fix any date, no.

Q. When did you leave the ship?

A. In February.

Q. In February? A. Yes.

Q. Were you in the service of the vessel at the time? A. Yes.

Q. The statement was signed? A. Yes.

Q. Had she come from up north or south at the time? A. That I could not say.

Q. She was in port, was she not?

A. She was in port, yes; we were in and out all the time.

Q. Did Captain Kidston tell you what he wanted that statement for?

A. No. He did not pass any remarks about it at all.

Q. Did he show you that statement again yesterday, or was it this morning that you saw him?

A. This morning. [420—301]

Q. Did he show it to you again this morning?

A. No.

(Testimony of Robert E. Judson.)

Q. Did you ask about it? A. No.

Q. Did Captain Kidston go up to Mr. Denman's office with you? A. Yes.

Q. And was there during your examination with Mr. Denman? A. Yes.

Q. Was that statement referred to in this examination?

A. No. I did not go through any examination; he asked me about the conversation.

Q. That is what I meant. A. Yes.

Q. Was that statement referred to in the conversation between you in Mr. Denman's office?

A. No.

Q. Did either Mr. Denman or Captain Kidston refer to it? A. No.

Q. Do you know where it is? A. No.

Q. You have got a good memory?

A. Fairly good.

Q. As good as the average man?

A. I think so.

Q. Was there anything remarkable in Captain Lie's statement of the situation of the "Beaver" before the collision as you heard it in the conversation on the bridge—was there anything remarkable in what he said? A. No.

Q. It was not remarkable that he had been lying there at a standstill for 10 minutes, was it?

A. No; sometimes a vessel lies at a standstill listening for a vessel.

Q. It was not remarkable that he was taking soundings? A. No.

(Testimony of Robert E. Judson.)

Mr. PAGE.—You said “Beaver.”

Mr. McCLANAHAN.—I meant “Selja.”

Q. Was it remarkable that he found 35 fathoms?

A. No.

Q. In fact, there was nothing unusual in this conversation at all on the bridge, was there?

A. No; very usual, as I should judge. [421—302]

Q. Now, I understand that the statement which you signed coincides with what you have testified to under oath. A. Yes.

Q. As being the actual words used so far as you have testified to the actual words used? A. Yes.

Q. And I understand, also, Mr. Judson, that since the December meeting you have not seen Captain Kidston about this matter at all? A. I have not.

Q. Have you seen anybody else about it?

A. No.

Q. You have not referred to the matter to anyone?

A. No.

Q. You have not spoken to any one?

A. Probably a shipmate, or something like that.

Q. What would you want to speak to them about this for?

A. I might be asked questions about this.

Q. About what?

A. About the collision, how it happened.

Q. I am speaking about this conversation.

A. No.

Q. You did not speak about that. Of course, it is not anything unusual? A. No.

Q. So that between the December meeting and

(Testimony of Robert E. Judson.)

this morning you have not referred to that conversation at all? A. No.

Q. Has Captain Kidston talked to you about points in controversy in this case? A. No.

Q. You do not know what they are? A. No.

Q. You do not know the import of your evidence here with reference to that conversation, that is, how it affects the case one way or the other?

A. Well, no. Of course I know there is a suit against the ship.

Q. You don't know how this conversation on the bridge that you heard affects the case one way or the other? A. No.

Q. You don't know whether it is in favor of the "Beaver" or in [422—303] favor of the "Selja"?

A. Well, I don't know as it is going to favor any one; all I know is it is the truth; that is all I know about it. Of course, I don't know anything about the law business.

Q. Is Captain Kidston in the employ of the San Francisco and Portland Steamship Company?

A. That I don't know; he has not been on the ship since; whether he is in their employ or not, I don't know.

Q. Since when, since the collision?

A. No. After she went to the drydock, he was there a few days; he has never made a trip on her since.

Q. Now, Mr. Judson, about the movement of the "Beaver," when she is going astern, you say her bow swings to starboard? A. Yes.

(Testimony of Robert E. Judson.)

Q. Where did you ever try that?

A. Well, we tried it in the river several times coming on logs and things like that floating down the river.

Q. What river? A. Columbia River.

Q. Well, have you in mind a time when you tried it? A. No, sir.

Q. You have not?

A. No, I could not tell you the date or anything like that; it was several times those things happened in the river.

Q. Isn't it a well-known fact that any vessel that is working full speed astern, if she has a right-hand propeller—that it is well known among seamen that it will swing to starboard?

A. To starboard, a right-hand propeller?

Q. Yes, isn't it well known?

A. Yes, that is known to me, as far as my experience goes.

Q. As far as you know that is the common experience of vessels [423—304] at sea? A. Yes.

Q. Is this other experience a common one, as far as you know?

Mr. DENMAN.—What other one?

Mr. McCLANAHAN.—The one he testified to in his direct examination.

Mr. DENMAN.—About the logs?

Mr. McCLANAHAN.—He did not testify about the logs, he testified about the swinging to starboard, in the direct examination.

Mr. DENMAN.—He testified to several circum-

(Testimony of Robert E. Judson.)

stances. You mean with the reversed propeller?

Mr. McCLANAHAN.—Q. I will ask you, Mr. Judson, did you testify to the swinging to starboard of the “Beaver” under several circumstances?

A. Yes, when going ahead.

Q. When going ahead? A. With helm to port.

Q. And what is the other? A. Going astern.

Q. And when going astern? A. Yes.

Q. Well, now, I have asked you about the going astern? A. Yes.

Mr. DENMAN.—Do you mean going astern when she has forward motion—reversing of the propeller when she has forward motion?

Mr. McCLANAHAN.—Q. What do you mean?

A. I mean when the ship is going astern, when she is stopped.

Q. You have testified to a swinging of the “Beaver’s” head to starboard under a port helm—

A. That is going ahead.

Q. (Intg.) Under two suppositions; first when the “Beaver” is going ahead? A. Yes.

Q. If you port your helm she will swing to starboard? A. Yes.

Q. Next when the “Beaver” is going astern and you port your helm—

A. No; there was not anything said about porting the helm going astern. [424—305]

Q. All right.

A. Sometimes the helm does not make any difference at all when going astern.

Q. That is true, isn’t it, that sometimes the helm

(Testimony of Robert E. Judson.)

loses its efficiency when you go astern?

A. Yes.

Q. Your only testimony was that when you went astern, when the "Beaver" went astern, she had a tendency to swing to starboard? A. Yes.

Q. Irrespective of the helm? A. Yes.

Q. And the helm loses its efficiency when the vessel is going astern?

A. In some cases; she would not lose it in all cases; in some cases it is sometimes very cranky when going astern.

Q. In your experience, Mr. Judson, you cannot rely upon the helm when she is going astern?

A. Not in all ships.

Q. I am speaking of the "Beaver." A. Yes.

Q. Those are the only situations that you testified to or meant to testify to with reference to the swinging to starboard?

A. The swinging to starboard, yes.

Q. When the vessel is going ahead, you port your wheel and she swings to starboard?

A. Yes; that is, her bow goes to starboard.

Q. Her bow. A. Yes.

Q. And when she is going astern—

A. Going astern she goes to, her bow swings to starboard again.

Q. Irrespective of the position of the helm?

A. Yes.

Redirect Examination.

Mr. DENMAN.—Q. Mr. Judson, suppose now you are in the Columbia River—do you recall such a case

(Testimony of Robert E. Judson.)

—suppose you are in the Columbia River and moving on a certain course. A. Yes. [425—306]

Q. And you see a log ahead and you give full speed astern? A. Yes.

Q. Of course it takes some time before you come to a stop? A. Yes.

Q. Do you remember what the effect on your course is, if you are going ahead, of that motion of the going full speed astern? How does it swing the head of your ship?

A. Well, to starboard.

Q. To starboard? A. Yes.

Q. Slowly or rapidly?

A. When she gets going she swings very rapidly.

Q. Now is your vessel quick to respond?

A. Very quick; one of the quickest vessels I ever saw to respond.

Mr. McCLANAHAN.—You are going over what you have been over once before. I did not mention anything about quick to respond; but you did twice on your direct examination. Now, you are going over it again on redirect examination.

Mr. DENMAN.—He has not contradicted it.

Mr. McCLANAHAN.—Therefore there is no necessity for you to ask it over the third time.

Mr. DENMAN.—Q. Do you remember coming to my office shortly after the collision? A. Yes.

Q. And giving me your version of this conversation? A. Yes.

Q. You know I had a stenographer there who took down your statement at that time? A. Yes.

(Testimony of Robert E. Judson.)

Recross-examination.

Mr. McCLANAHAN.—Q. When was it that you went to Mr. Denman's office after the collision?

A. I cannot remember the date, but I remember the fact of going up there. I can't remember the date.

Q. It is pretty hard to remember those things?
[426—307]

A. I did not pay much attention to the case. I did not know I was going to be interested in it one way or the other.

Q. Was it after the ship had come out of drydock or before? A. I think afterwards.

Q. Was it after she had made a trip up north and returned? A. I believe so.

Q. It was before the signing of the statement on the dock in December? A. Yes.

Q. You remember distinctly this visit to Mr. Denman's office?

A. Yes, I remember the fact I was there.

Q. You did not in that statement refer to this conversation on the bridge?

Mr. DENMAN.—Q. You mean when he first came to my office?

Mr. McCLANAHAN.—Yes.

A. Yes.

Q. That was a part of the statement?

A. Yes.

Q. Then you had forgotten that conversation when I asked you?

A. Well, I did not remember about going to Mr. Denman's office.

(Testimony of Robert E. Judson.)

Q. You had forgotten that conversation when I asked if those were the only two times you referred to the conversation on the bridge? A. Yes.

Q. Is it likely that you have missed some other conversation with somebody else?

A. No, not about that, except maybe with my ship-mates, because I have not been ashore here any time since to talk to anybody.

Q. You feel quite sure that you have given all the conversation you heard on the bridge?

A. Yes, sir.

Q. And this conversation about the bridge in Mr. Denman's office was taken down in shorthand?

A. I don't know about taken down [427—308] in shorthand; he had a stenographer there; I don't know what she did.

Q. You don't know whether she took it down or not? A. No.

Q. Did you ever hear what she took down afterwards?

A. No, unless it was the same statement I signed; it might have been, I don't know.

Q. Do you know the stenographer's name?

A. No, I don't think I would know the young lady again if I saw her.

Q. Did you in your statement in Mr. Denman's office give the version of the collision and your knowledge of it as you have given it here, practically?

A. Well, I don't know about the collision. I was in my bunk.

(Testimony of Robert E. Judson.)

Q. Well, all of this—

A. (Intg.) You mean the conversation on deck?

Q. Yes. A. Yes.

Q. This statement in Mr. Denman's office, did that refer only to the conversation on the bridge?

A. As near as I remember, yes.

Q. Didn't it refer also to the position of the south end of Point Reyes and the distance that you saw?

A. I don't remember.

Q. You don't think so? You think it just referred— A. (Intg.) I don't think it did.

Q. You think it referred just to the bridge?

A. Yes.

Q. You say it was a young lady who took it down?

A. I don't know whether it was a young lady or not; it was a lady anyhow.

Q. She was Mr. Denman's stenographer?

A. I should judge so.

Q. And this was before December when you saw Kidston?

A. Well, it was about that time. I think Captain Kidston, the day I saw him, I think he told me about going up to the office. I [428—309] think that is the time.

Q. Did you ever see this statement after it was transcribed and put into print?

A. The statement, I think, might have been the same—I don't know whether he had one made up or not.

Q. Let us not get confused.

A. The statement was the same anyhow, the one

(Testimony of Robert E. Judson.)

I had made, as the one I signed.

Q. The one you signed was the same as the one you made to Mr. Denman? A. Yes.

Q. Did you recognize it when you read it as being the statement you made in his office?

A. Yes. That is what I stated.

Q. You told me on your cross-examination that you did not know who prepared that statement.

A. I do not know. I told you I did not know whether that is the one or not; it might have been another copy.

Q. You don't know whether it was or not?

A. I do not know. I don't know of any difference in the paper.

Q. Who was present there at the office when you made this first statement to Mr. Denman?

A. Mr. Denman and Captain Kidston.

Q. Anybody else? A. The young lady.

Q. The stenographer. A. Yes.

Mr. McCLANAHAN.—Will you produce the statement?

Mr. DENMAN.—We will try to, yes.

(An adjournment was here taken until Thursday, June 29th, 1911, at 10 A. M.) [429—310]

Thursday, June 29th, 1911.

[Testimony of Joseph W. Ettershank, for Respondent.]

JOSEPH W. ETTERS HANK, called for the respondent, sworn.

Mr. DENMAN.—Q. Mr. Ettershank, what is your

(Testimony of Joseph W. Ettershank.)

full name? A. Joseph William Ettershank.

Q. What is your calling? A. Second officer.

Q. How long have you been to sea, how many years? A. About 12 years.

Q. About 12 years? A. Yes, sir.

Q. On this coast? A. Yes, sir.

Q. How long have you held officer's papers?

A. Four years, very near.

Q. What position did you hold on the "Beaver" on the day of her collision with the "Selja"?

A. Second officer.

Q. Were you on the bridge at the time of the collision? A. Yes, sir.

Q. From the time she left the harbor?

A. No, not on leaving the harbor. I came up after she got under way.

Q. After she got under way you went on the bridge? A. Yes.

Q. Were you on the bridge at the time she passed the Heads? A. Point Bonita?

Q. Yes.

A. I just came up before she passed Point Bonita.

Q. And were you on the bridge thereafter until the time of the collision—that was your watch on the bridge? A. Yes, sir.

Q. Was the captain on the bridge during any of that time? A. He was there all the time.

Q. You say all the time. Was he there continuously or did he leave the bridge at any time?

A. He left the bridge, and he turned the bridge

(Testimony of Joseph W. Ettershank.)

over to me when he went below for a few seconds.

[430—311]

Q. What was the condition of the weather when you came on the bridge first?

A. It was overcast and hazy.

Q. Had you actually entered the fog at that time?

A. No, sir.

Q. Did you see No. 2 Buoy as you went out?

A. Yes, sir.

Q. How soon after that did you enter the fog?

A. Oh, it began to shut in after we passed the buoy.

Q. Did it continue to shut in until the time of the collision? A. It was foggy, yes.

Q. What was the condition of the ocean at that time?

A. Heavy westerly swell, heavy ground swell running.

Q. What was your course after leaving Red Buoy No. 2? A. What is that?

Q. What was your course after leaving Red Buoy No. 2? A. South 83 west.

Mr. McCLANAHAN.—Q. Magnetic?

A. Well, there is hardly any deviation on westerly courses.

Q. That is by the bridge compass?

A. That is by the bridge compass.

Mr. DENMAN.—Q. Did you change your course after that? First you went south 83 west, is that correct? A. Yes, sir.

Q. How long did you keep on that course?

A. South 83 west?

(Testimony of Joseph W. Ettershank.)

Q. Yes.

A. Until we changed it a degree, one degree, made it 82, one degree more, when we came along to Duxbury Buoy—I did not see the buoy, it was kind of thick.

Q. Did you change your course after that?

A. Yes, sir.

Q. To what? A. After we passed the buoy?

Q. Yes.

A. Well, we read the log and changed the course at Duxbury, when the log was running the distance.

Q. And what course did you change to then?

A. North 86 west.

Q. North 86 west? A. Yes, sir. [431—312]

Q. How long—how were you heading with reference to the swell at that time?

A. Pretty near head on to it.

Q. How long did you continue on that course?

A. Until the time of the collision.

Q. Until the time of the collision? A. Yes, sir.

Q. You mean by that right up to the moment of the collision or to the neighborhood of the collision?

A. A couple of minutes before the collision.

Q. What happened a couple of minutes before the collision—did you hear any whistle?

A. We heard a whistle, yes.

Q. Whereabouts did you hear the whistle?

A. Starboard bow, about a point on the starboard bow.

Q. What did you do then? Where was the captain at that time when you heard that whistle?

(Testimony of Joseph W. Ettershank.)

A. Right below on the port side of the bridge, down on the other side of the deck, I was walking right across the bridge.

Q. On the port or starboard side of the vessel?

A. On the port side.

Q. On the port side of the vessel?

A. Yes, sir. The quartermaster heard the whistle at the same time, and he says, "Did you hear the whistle," and I says, "Yes," and I sung out right to the captain.

Q. What did you—

A. (Intg.) He was right down below the bridge.

Q. What did you sing out to him?

A. I told him there was a whistle a point on our starboard bow.

Q. What did he do?

A. He immediately came up.

Q. What did he do then?

A. He starboarded the helm. I looked at the compass.

Q. He starboarded the helm; did she swing over any?

A. She swung over in the neighborhood of half a point. [432—313]

Q. To what direction?

A. She swung to the southward.

Q. Well, is that to port?

A. To port, sure, yes.

Q. Did you hear any whistle after that first whistle? A. Well, our whistle blew.

Q. But did you hear any other whistle?

(Testimony of Joseph W. Ettershank.)

A. We heard his whistle again.

Q. Where was it?

A. About a point on our bow, still, in the neighborhood of that.

Q. What happened then?

A. The captain ordered the helm hard-a-port and stopped her, and then at the same time he put the telegraph full speed astern and rang two or three times.

Q. Rang the telegraph two or three times?

A. Yes.

Q. What is the purpose of ringing it two or three times?

A. Well, for them down in the engine-room to know that he wants all the power they can get.

Q. Going astern?

A. Yes, sir, going astern.

Q. What horse-power have you on your vessel? Do you know the number of horse-power?

A. No, sir.

Q. Did you blow any signals at that time?

A. The captain blew three whistles.

Q. The captain blew three whistles?

A. Yes, showing that he is backing, going astern with the ship.

Q. Did you see the "Selja" after that?

A. Yes, I seen her in a few, in a matter of a few seconds, half a second or so—I mean half a minute or so.

Q. Where was she lying when you saw her?

A. In the trough of the sea.

(Testimony of Joseph W. Ettershank.)

Q. I mean whereabouts from you?

A. On our starboard bow.

Q. On your starboard bow? A. Yes, sir.

[433—314]

Q. And at what angle was she lying to you at that time?

A. Well we was heading west, and she was heading like that, at right angles.

Q. At right angles? A. Yes, sir.

Q. What happened to your ship when you backed her full speed astern and put your helm hard-a-port?

A. Well, she swung to starboard.

Q. She swung to starboard?

A. And came pretty fast.

Q. Did she strike the "Selja"?

A. She hit her, yes.

Q. Whereabouts? A. Forward of the bridge.

Q. Forward of the bridge?

A. Yes, No. 2 hatch.

Q. About what angle did she strike her?

A. Pretty near right angles.

Q. About right angles? A. Yes, sir.

Q. What happened after that?

A. Well, we held on there for a little while.

Q. Then what happened?

A. We backed away from her.

Q. What did you do after the collision, after she struck? Where did you go?

A. I was down helping the men, and I went down to look at the bow, and sound the forepeak tank, the fresh water tank there.

(Testimony of Joseph W. Ettershank.)

Q. Was she making any water?

A. I took the sounding; and held a taste and did not taste any salt in it at all.

Q. What did you do then?

A. I went down to help to get the men aboard; I was at the port upon the main deck and helping to get the crew in; we had a Jacob's ladder over there.

Q. What else did you do?

A. I reported to the captain on the bridge.

Q. How long was that after the collision that you reported to the captain on the bridge?

A. I reported about the tank right away [434—315] afterwards and then he told me to go down and help them to get the boats alongside.

Q. Well, then how soon did you come on the bridge again that day, that afternoon? A. Yes.

Q. How soon after you reported the first time did you go on the bridge again?

A. Well, she was—it was just before we got under way again, somewhere about—I don't know what time it was.

Q. Within half an hour? A. Oh—

Q. Three quarters of an hour?

A. It was less than half an hour, about 20 minutes, something like that, I guess.

Q. Were you on the bridge when she finally got under way? A. Yes, sir.

Q. Did Captain Lie come on the bridge at any time? A. Yes, sir.

Q. When was it?

A. It was just after we got under way he came up

(Testimony of Joseph W. Ettershank.)

on the bridge, and the third mate and myself and the captain was there; he came up on the starboard side of the ladder.

Q. What happened? Was there any conversation between any of the officers there and Captain Lie?

A. Our captain was talking to him.

Q. What, if anything, was said in that conversation?

A. Well, there was some words that was said. The captain took hold of him and said, "You have got dry clothes on," and Captain Lie says, "Yes, I am all right." Captain Kidston then says, "Well, I am sorry that I sun'k your ship."

Q. What followed in that conversation, if anything, on Captain Lie's part?

A. He said he was laying dead still, he said, taking soundings; he says he knew it was the—he says, "I heard your whistle for somewhere around, about 15 minutes," he says, "before you hit us"; he says, "I knew it was the 'Bear' or the 'Beaver' by the whistle." [435—316]

Q. Was there anything said as to the length of time he had been lying there?

A. He said he had been stopped there for 10 minutes.

Q. Was anything further said in that conversation regarding the people on board of the "Selja"?

Mr. McCLANAHAN.—Let him give the conversation.

Mr. DENMAN.—Q. Give whatever you remember of the rest of the conversation.

(Testimony of Joseph W. Ettershank.)

A. The captain asked him if he had all his crew, and he said he did not know until he mustered them. I remember him saying that, too.

Q. Where were you during the time of this conversation? A. On the bridge.

Q. On the bridge?

A. Yes. Of course I did not stand right alongside of them to listen to them, but they were talking loud enough so that I could hear.

Q. What was the condition of Captain Lie when he came on the bridge? A. Very nervous.

Q. Had he been overboard?

A. He said that his boat had gotten smashed and he lost all of his papers and money and all that.

Q. After you left the bridge the first time and went forward you say you came back and reported to the captain and then you went aft to help with the boats?

A. Yes.

Q. Did you at any time during that period see the land?

A. I seen the land, yes, after I came up on the bridge, before we got under way, there.

Q. What land could you see?

A. I saw the loom of Point Reyes, and you could see the southward point of Drake's Bay there.

Q. Southward point of Drake's Bay. Do you mean by that the point at the south of Drake's Bay?

A. South of Point Reyes.

Q. Did you take any bearings of that?

A. No, sir. The captain [436—317] took bearings while I was away.

(Testimony of Joseph W. Ettershank.)

Mr. McCLANAHAN.—Q. You don't know that, do you?

A. Only from what he told me, that he got the bearings.

Mr. DENMAN.—Q. What direction was the south point from you? What direction did it lie from you? I am not asking you now for the specific bearings, I am asking for the general direction.

A. It was west of northward.

Mr. McCLANAHAN.—What is that?

(The answer repeated by the Reporter.)

Q. Is that your answer? A. Yes, sir.

Mr. DENMAN.—Q. You don't mean to give it in exact points of the compass, do you? A. No, sir.

Q. What distance did the south point seem to be from you, as far as you could judge?

A. Oh, I guess four or five miles off from us.

Q. And could you see the north point at that time?

A. Point Reyes?

Q. Yes.

A. You could see it there, see the loom of it, and you could see the steam from the whistle blowing.

Q. The steam from the whistle blowing?

A. Yes, sir.

Q. Could you hear the whistle?

A. No—I did not hear it.

Q. About how far off did the north point seem, in rough figures?

A. About seven miles or so, I guess, in that neighborhood.

Q. How long did you remain on the bridge after

(Testimony of Joseph W. Ettershank.)

you started to come back?

A. Well, I was not there long, because the third mate relieved me; after 4 o'clock my watch was up.

Q. Do you know what course you sailed coming back? Did you enter the course on your log, by the way? A. South 71 east.

Q. South 71 east? A. Yes, I think so.

Q. That was the bridge compass?

A. The bridge compass. [437—318]

Q. You say that there is no deviation on a westerly course. How was it on a course east southeast? What deviation does your compass show on east southeast. A. About 4 degrees, I think.

Mr. McCLANAHAN.—Q. Where? At this point?

A. Around 4 or 5 degrees, I don't know exactly.

Mr. DENMAN.—Q. Where did you go then? Where did you go after you were relieved, after your watch was up—where did you go?

A. Well, I was down around the ship; went around the ship.

Q. You say that when you heard the second whistle of the "Selja" you went full speed astern?

A. We stopped her and went full speed astern, you know, and she was stopped first, the captain stopped her, and then she went full speed astern.

Q. Was there any appreciable length of time between those two movements?

A. No—a second or two.

Q. Was your log out at that time?

A. Yes. We sent the quartermaster aft to haul it in.

(Testimony of Joseph W. Ettershank.)

Q. What did he report the log? How many knots?

A. The log showed 19.6 of a knot.

Q. 19.6 knots. Where did you stream the log on the out trip?

A. We streamed it after we passed Point Bonita, but we did not set it until we was at the Red Buoy,—to get the turns out of it, you know, before we came up to the buoy.

Q. You set it at the Red Buoy?

A. Yes, at zero.

Q. What, if any, is the effect on the log in sailing into a head swell such as you had that day?

A. Well, the log runs a little over.

Q. How much will it run over? How much will it run over in an hour?

A. Well, about half a mile, or three-eighths of a mile, something like that. [438—319]

Q. Half or three-eighths of a mile? A. Yes.

Q. How did you regard the swell on that day? Was it heavy?

A. Yes, it was a heavy northwest swell.

Q. You say northwest.

A. I mean westerly; heavy westerly swell running.

Q. Did the "Selja" have any way on her when you first saw her? A. No, sir; not that I could see.

Q. At what angle did you strike her—I think I asked you that? A. Pretty near right angles.

Mr. DENMAN.—I think that is all.

Cross-examination.

Mr. McCLANAHAN.—Q. You say the captain took bearings of Point Reyes and South End?

(Testimony of Joseph W. Ettershank.)

A. Yes.

Q. Do you know what they are?

A. No, sir, I did not ask him. He just told me he took them, he took the bearings and got the distance off, he says.

Q. He never showed you what they were?

A. I never asked him.

Q. You do not know what they were?

A. No, sir; I do not.

Q. Never been told what they were?

A. No, never have been.

Q. You think when you saw Point Reyes and saw South End that you were about where the collision took place?

A. Well, we was not very far away, sir.

Q. You are smiling; what is the point? Do you mean—

A. I am smiling—what do you mean by smiling?

Q. Do you mean that is a foolish question?

A. No, no.

Q. It is your best judgment that is about the point of the collision?

A. It was about, in that locality, it was not very far. It could not be in the spot, because we were bound to move; the swell would take us away from the spot, any way, wouldn't it? [439—320]

Q. The swell would take you away from the spot?

A. Well, yes.

Q. Would the swell take you away?

A. Sure; it would roll us in, wouldn't it?

Q. I am asking you. A. I would say yes.

(Testimony of Joseph W. Ettershank.)

Q. In your judgment the swell would take you away from the spot of the collision, without any wind? A. What do you mean by that?

Q. Just answer the question.

A. Well, we was in the same locality as we hit it.

Q. Answer the question, would the swell take you away from there? A. You see, we would drift.

Q. The swell would make you drift?

A. We would drift, and the wind would help, too, wouldn't it?

Q. There was no wind that day, was there?

A. It was blowing a little bit, yes.

Q. Do you recall any wind that day?

A. There was a light breeze blowing, yes.

Q. Was it such a wind as would affect the "Beaver"?

A. The ship stands pretty high, you know; it don't take much wind.

Q. Isn't it a fact that all hands agree there was a very light wind?

A. I said it was light. I didn't say it was strong.

Q. Now, did that wind affect the "Beaver" and blow her away from the point of collision?

Mr. DENMAN.—You mean away at all or any considerable distance?

Mr. McCLANAHAN.—Let the witness qualify his answer if he wants to.

Q. I am asking for your judgment only. Well, you do not seem [440—321] inclined to answer that question.

Mr. DENMAN.—I do not think he quite under-

(Testimony of Joseph W. Ettershank.)

stands the question.

A. The wind and swell would, if the ship had stopped, it would help her to go out of position.

Mr. McCLANAHAN.—Q. The wind would?

A. The wind and the swell both, yes.

Q. Now, suppose there had been no wind, would the swell do it? A. Sure, she would.

Q. You are quite sure of that, are you?

A. Why, certainly.

Q. Don't you know, Mr. Ettershank, that that swell would not have any effect on the ship at all, without wind?

A. No,—I don't understand what you mean.

Q. Why not? What is the matter with my question?

A. You mean to say a vessel in a swell like that, it won't affect her any, won't take her away?

Q. You are asking me questions now.

Mr. DENMAN.—That is a fair question.

Mr. McCLANAHAN.—Q. In your judgment then, the swell would affect the ship? A. Sure it would.

Q. And drive her away from the point of collision?

A. Sure it would.

Q. Your theory of this collision was that the swell brought the vessels together, wasn't it?

A. What was that?

Q. That the swell brought the vessels together.

A. Oh, no; I ain't talking that way at all.

Mr. DENMAN.—He has not testified as to his theory of the case at all.

Mr. McCLANAHAN.—Q. Have you any theory as

(Testimony of Joseph W. Ettershank.)

to how this collision took place? [441—322]

Mr. DENMAN.—Do you mean from his testimony as to the distance of the vessels?

Mr. McCLANAHAN.—I do not know whether it is in his testimony or in his head.

Q. Have you any theory as to how this collision took place? Can you answer that question?

A. The weather was foggy.

Q. Is that all you can say, that it took place because of the fog?

A. His ship was dead stopped, and he ought to have blown two whistles instead of one whistle.

Q. Anything else? Your ship was stopped, too, was it not?

A. After the collision, yes, we stopped.

Q. Before the collision?

A. We stopped just before the collision and backed her, yes.

Q. Your vessel was not making any way through the water at the time of the collision?

A. Sure, because we was going ahead and then we stopped and backed, but it took a second or two for her to back, to pick her way up to back—she must have had way on her.

Q. Your testimony now is that she did have way on her at the time of the collision?

A. Not when she hit, I did not say that, no.

Q. What was the condition of the "Beaver" at the time of the collision, did she have way on her?

A. Ahead?

Q. Yes.

(Testimony of Joseph W. Ettershank.)

A. Well, we was just on top of *one the* swells and we came down.

Q. So she did not have any way on her?

A. She did not have any way on her.

Q. I am getting at your theory. Then if the "Selja" was stopped in the water, and the "Beaver" at the time of the collision had no way on her, then you think that the swell brought the two vessels [442—323] together?

A. We was right on the top of the crest of a swell and she was laying in the trough of the sea and we came right down and cut into her.

Q. So that the swell brought the ships together?

Mr. DENMAN.—He said it cut down into her.

Mr. McCLANAHAN.—Q. Is that your version of it? A. Yes.

Q. That is, the action of the swell brought those two dead stopped ships together?

A. Just before the collision came, I say, that is the way she was hit.

Q. I am not talking about just before the time of the collision now. I say it was the swell that brought the two ships in contact at that moment? A. Yes.

Q. In your judgment the "Beaver" was dead in the water at the time of the collision taking places, as far as making any movement through the water with her engines or through momentum?

A. She was swinging with her helm hard-a-port, swinging to starboard all the time.

Q. The "Beaver" was dead in the water?

A. No. How could she be dead in the water?

(Testimony of Joseph W. Ettershank.)

Q. She was making no way?

A. Making no way?

Q. Making no way in the water at the time of the collision; is that it? A. No.

Q. She was not? A. No.

Q. Now, what was her speed? What was her speed at the time you reversed the engines?

A. I think around 12—I think it was around 13 miles an hour, I guess, we was going.

Q. 13 knots an hour, you mean?

A. 13 knots an hour.

Q. That is the time you reversed the engines?

A. Yes.

Q. That was reduced speed, was it not?

A. Yes, she had been [443—324] reduced—the speed had been reduced.

Q. When did you reduce the speed?

A. Before the collision the engineers had been notified.

Q. You say before the collision? A. Yes.

Q. How long before the collision, Mr. Ettershank?

A. Oh, just after we passed Duxbury, it got foggy around there; I guess 3 o'clock, somewhere around that—I don't remember exactly the time.

Q. Oh, yes. You remember the time you passed Duxbury Reef.

Mr. DENMAN.—He has said about 3 o'clock.

Mr. McCLANAHAN.—Q. You remember the time you passed Duxbury, you remember that time?

A. 2:15, yes.

Q. What is that, 2:15? A. Yes.

(Testimony of Joseph W. Ettershank.)

Q. Was it then that you reduced the speed?

A. No, it was long—it was after we passed.

Q. After you passed? A. Yes.

Q. Around 3 o'clock?

A. Around 3 o'clock, yes.

Q. What do you mean by saying you reduced speed? What did you do to reduce it?

A. I did not do it. The captain ordered it reduced.

Q. How do you know he did?

A. Because he called for the quartermaster.

Q. Did you hear him? A. I did, certainly.

Q. What did he say to the quartermaster?

A. I don't know. He was down on the other deck, he gave him an order to go to the engine-room. He gave him a note for the engine-room.

Q. Did you see him do anything? You say you did not hear it?

A. I could not hear it way down in the engine-room, to say they reduced the speed.

Q. I am talking about Captain Kidston. What did Captain Kidston say? [444—325]

A. He says, the speed is reduced to 76 turns, he says.

Q. He said that to whom?

A. Me, on the bridge.

Q. That was after he had handed the note to the quartermaster?

A. He was right down below on the ladder and I was walking across.

Q. You know, as a matter of fact, that the revolu-

(Testimony of Joseph W. Ettershank.)

tions were reduced to 76 at 3:10, don't you?

A. Yes, sir.

Q. 3:10? A. 3:10.

Q. Do you know what was in that note?

A. I did not see it, because they were down on the other deck below me, I could not see.

Q. Before that your telegraph was at full speed, was it not? A. Yes, sir.

Q. And remained at full speed up to the time you reversed it, did it not?

A. We had full speed, you say?

Q. The telegraph remained at full speed up to the time you reversed?

A. Yes. There is not only full speed on it; it has half speed, slow and stop; that is ahead. And then the same astern again.

Q. What would slow speed be?

A. We would be just turning.

Q. How many revolutions, do you know?

A. No.

Q. You are not an engineer? A. No, sir.

Q. Do you know how many revolutions full speed is?

A. What our ship does when she goes full speed?

Q. Yes. A. She makes 84 revolutions.

Q. Eighty-four at full speed? A. Yes, sir.

Q. So then up to the time the revolutions were reduced, if they were reduced, she was making 84 revolutions?

A. I don't know if she was making it; we had been running the watch and had not been getting the revo-

(Testimony of Joseph W. Ettershank.)

lutions whistled up from the engine-room—I could not tell you that—she was supposed to be going [445—326] full speed.

Q. It was supposed to be 84 turns?

A. I don't know whether she was going 84 turns or not. I could not tell you, because I don't know.

Q. Did you talk to Captain Kidston about the point of collision, Mr. Ettershank, about where it took place? A. Yes, we talked.

Q. You and he agreed practically as to where the collision took place? A. Yes.

Q. What is that? A. Yes.

A. About six miles from Point Reyes and four miles from the South End.

Mr. DENMAN.—He did not say that.

Mr. McCLANAHAN.—Q. Wait a minute. I am asking that question, about six miles from Point Reyes? A. Six or seven miles, something like that.

Q. Do you know what Captain Kidston says was the point of collision, where it was? A. What?

Q. Do you know where he believes the collision took place? A. South of Point Reyes.

Q. How far from Point Reyes?

A. About six miles.

Q. How far from the South End?

A. About four or five miles.

Q. So you and he practically agree as to the point of the collision? A. Yes, sir.

Q. Your last departure was Red Bouy No. 2, was it not? A. Red Bouy No. 2.

Q. What hour was that?

(Testimony of Joseph W. Ettershank.)

A. The time we passed Red Bouy?

Q. Yes.

A. Before 2 o'clock. It was before 2 o'clock we passed there. [446—327]

Q. Don't you know it was 1:45?

A. I have got it marked down in the log-book.

Q. Where is the log?

A. It is marked down in there.

Q. You put it in there, in the log, didn't you?

A. Sure I did.

Q. Let us see the log? A. Before 2 o'clock, yes.

Q. Turn to the entry. A. 1:45 No. 2.

Q. 1:45? A. Yes, sir.

Q. Now, I have here Libelant's Exhibit No. 3, which is a map of San Francisco Entrance; you recognize the map, do you, Mr. Ettershank?

A. Yes, sir.

Q. Now, did you pass No. 2 Bouy on your port side, going out? A. Yes, sir.

Q. How far off, was it?

A. Oh, it was about an eighth of a mile—it was not very far.

Q. Could you see it?

A. Yes, sure you could; we had set our log at zero there.

Q. Just as soon as you passed the bouy then you altered your course? A. Yes, when she was abeam.

Q. What is the course that you set after you passed the bouy? A. Up to Duxbury?

Q. Yes. A. We steered south 83 west.

Q. When did you steer south 82 west?

(Testimony of Joseph W. Ettershank.)

A. That was before we came opposite Duxbury Reef.

Q. When did you change?

A. Well, around—it was not far away—that is there in the log-book, 2 o'clock.

Q. That is, your course first was south 83 west magnetic? A. Yes.

Q. And then about 3 o'clock you changed it to 82?

A. No—2 o'clock. [447—328]

Q. About 2 o'clock? A. Yes, sir.

Q. 1:45 it was south 83 west and at 2 o'clock it was changed to south 82 west? A. Yes.

Q. Now, will you please take these parallel rulers, Mr. Ettershank, and put your south 83 west course from the buoy on this map—south 83 course. I want you to be careful about this, accurate. Can you tell what south 83 magnetic would be true?

A. No deviation on that hardly at all. Let see, south 83.

Q. I mean on that compass that you find there, what it would be true. Can't you run that course for me, Mr. Ettershank? A. Of course.

Q. Just take your south 83 magnetic on your compass there on the chart and plot your course from Red Bouy. Did you ever plot a course, Mr. Ettershank? A. Sure, I have laid out courses.

Q. What is the difficulty about this?

A. Nothing at all.

Q. Well, let us get at it then. Mr. Ettershank, you are now running your parallel rulers from Duxbury Reef in line with Red Bouy No. 2, aren't you?

(Testimony of Joseph W. Ettershank.)

A. Yes.

Q. That isn't the way to plot a course.

A. I know it isn't.

Q. Commence at your compass.

Mr. DENMAN.—Pardon me. Let me ask one question: Are the degrees marked for the magnetic course on this compass?

A. No, the degrees are not on there.

Mr. McCLANAHAN.—Q. Your ruler had slid again. You can't get it that way. I am *point* to this outer circle, Mr. Ettershank, on the compass; what is that, true or magnetic? A. Magnetic.

Q. The outer circle. What is the inner circle, true or magnetic?

A. That is in points—that is in degrees out here.

Q. So that the outer circle is the magnetic.

A. Yes. [448—329]

Q. And the inner circle is what?

A. That is in degrees.

Q. Degrees? A. Yes—I mean points.

Q. Points? A. Yes.

Q. That is all you know about that inner circle. Now, as a matter of fact, Mr. Ettershank, this outer circle is the true compass, and the inner circle is the magnetic compass. Now, with that assistance can you please find your course south 83 west magnetic, bearing in mind that the inner circle is the magnetic compass—what is the variation, Mr. Ettershank, on that compass? A. The variation?

Q. Yes. A. The variation is 18-15.

Q. What year was that? A. In 1916.

(Testimony of Joseph W. Ettershank.)

Q. What was the variation, then, approximately, last year, 1910? About $17\frac{1}{2}$, was it not?

A. That was—

Q. That does not show on the map. As a sailor, don't you know? A. There is an increase of 5.

Q. What is the variation, then, last year?

A. That is 1916 there.

Q. It would be about $17\frac{1}{2}$ wouldn't it?

A. 17 or 17-45.

Q. Now, taking $17\frac{1}{2}$ as your variation, can you get your south 83 west magnetic on your true compass there, by making the proper reductions? That will assist you in getting your course. Now, shall I mark that?

A. That would be the position of the buoy. That will be all right (pointing). That is all right.

Q. Now, you think you have got south 83 west magnetic. Shall I draw a line along the ruler there?

A. Yes.

Q. That is the dotted line which you see, the south 83 west magnetic course? A. Yes.

Q. Is that correct? Do you want to draw it over again and make sure of it? Will you answer my question so we can get along here? [449—330]

A. I will try it over again. (Pointing.)

Q. That does not correspond with your other line, does it? A. No, sir.

Q. Well, try it again. Put it down on the compass and try it again. Your dotted line you swear by, do you? A. That is south 83 magnetic.

Q. That is south 83 magnetic? A. No.

(Testimony of Joseph W. Ettershank.)

Q. Well, what is it? You understand you are plotting a course south 83 magnetic.

A. There you are.

Q. Do you want me to draw another line?

A. Yes.

Q. We will make this a straight line? A. Yes.

Q. And it is your course of south 83 west magnetic; is that right—from Red Buoy? A. Yes.

Q. Is that right?

A. That is south 83 magnetic and that is 86.

Q. What is this?

A. South 83 west magnetic from Red Buoy.

Q. That is just what—is that the line now that shows a cross and a cross, south 83 west magnetic?

A. Yes.

Q. Shall I draw a line along there? A. Yes.

Q. I will put a cross at the one end and a cross at the other? A. Yes.

Q. Now, the dotted line you discard? A. Yes.

Q. That was an error? A. Yes.

Q. When you changed your course at 2 o'clock you changed it one point, did you? A. At 2 o'clock?

Q. Yes. A. One point?

Q. Yes. Did you at 2 o'clock?

A. We changed it one degree.

Q. Which way?

A. That would bring her outside the buoy more.

[450—331]

Q. It was changed to 82, was it?

A. To south 82 west.

Q. Will you run the course south 82 west, showing

(Testimony of Joseph W. Ettershank.)

the one degree? You find it a little difficult, don't you, Mr. Ettershank, to run that course? A. No.

Q. I wish you would hurry up. We have been nearly 15 or 20 minutes in this.

Mr. DENMAN.—I object to that. I think it has been about three minutes.

Mr. McCLANAHAN.—Q. Have you got it now, the 82? A. I am very nervous.

Q. You are not nervous, are you? Will you accept some assistance in getting that course, Mr. Ettershank, let somebody help you? There you are now. You have got it now? A. Yes.

Q. I am now marking the south 82 course with a dotted line. A. Yes.

Q. I will mark that at the end with a circle on the margin of the map. Now, the X I will mark, with your permission, as south 83 west magnetic, and the dotted line below it I will mark south 82 west magnetic. Now, that latter course, south 82 west magnetic, was the course that you steered when you passed Duxbury Reef? A. Yes.

Mr. DENMAN.—What? You have got the witness thoroughly rattled. He did not testify that. He testified that south 82 west—

Mr. McCLANAHAN.—I am not asking what he testified.

Q. Isn't that the course that you steered when you passed Duxbury Reef whistle, south 82 west? That is right, isn't it? Don't look at the captain; just answer my question. [451—332]

A. We changed the course from south 83 west to

(Testimony of Joseph W. Ettershank.)

south 82 west when we passed Duxbury Reef.

Q. When Duxbury whistle was abeam you were on the course south 82 west; is that correct?

A. Yes, sir.

Q. Now, will you take your dividers and tell me how far the whistle, the Duxbury whistle was from that course which you have placed on the map when you passed it?

A. About three-quarters of a mile.

Q. Three-quarters of a knot? A. Yes.

Q. That is correct, is it? A. Yes, sir.

Q. Of course, you did not hear the whistle when you passed it? A. No, sir.

Q. And you did not see it? A. No.

Q. Don't shake your head because a head shake can't go into the record. You neither heard nor saw the whistle? A. No, sir.

Q. Did you put it down in your log when you passed it? A. What? Duxbury?

Q. Yes. A. Yes.

Q. 2:15? A. 2:15.

Q. How did you know you were passing it?

A. Approximately.

Q. How do you know you were passing it when you neither saw it nor heard it?

A. Well, we run our log and it showed seven miles.

Q. Seven miles from where?

A. From the Red Buoy.

Q. Did you read your log? A. Yes.

Q. When? A. Before we changed our course.

Q. So that you are quite sure you passed it at

(Testimony of Joseph W. Ettershank.)

2:15? A. Yes.

Q. Through the reading of the log? A. Yes.

Q. Did you read the log?

A. No, sir. [452—333]

Q. Who did?

A. The quartermaster read it.

Q. What is his name? A. Alberson.

Q. Did he report the reading to you?

A. Yes. And I entered it in the log-book.

Q. And then you changed your course after that?

A. The captain was there when it was changed.

Q. Now, after passing Duxbury you changed your course which way?

A. North 86 west we steered then.

Q. North 86 west magnetic? A. Yes, sir.

Q. Is that correct? A. Yes.

Q. Any deviation on that course?

A. No deviation.

Q. And from Red Buoy No. 2 to Duxbury your engines were full speed? A. To Duxbury Reef?

Q. They were going full speed? A. Yes.

Q. Now, what would you say was her speed?

A. That we was making?

Q. At that time, between 1:45 and 2:15?

A. 1:45 and 2:15, what she was going?

Q. Yes.

A. I guess she was going around 15, or something like that.

Q. Around 15 knots? A. Yes.

Q. Did you log her speed? A. Sure, yes.

Q. Where is it? Is that the log?

(Testimony of Joseph W. Ettershank.)

A. That is the log-book.

Q. Let us see it. Turn to the entry.

A. The log was set at 1:45; Duxbury was abeam at 2:15. She made 7 miles in half an hour, 1:45 to 2:15, that is half an hour; she logged 7; the log runs a little ahead—the log shows 14 only.

Q. If the log only showed 14, it would be less than that, wouldn't it?

A. The log showed 7 miles—she would run half an hour, it showed 7. [453—334]

Q. Did the log show the true distance that the vessel run?

A. Well, that night—we might have run past Duxbury a little bit, sure.

Q. Might have run past it or run this side of it?

A. No; the log runs a little ahead of her.

Q. How far is it from Red Buoy No. 2 to Duxbury Reef?

A. Well, that is very near, pretty near to seven miles.

Q. Do you know the distance? A. Seven miles.

Q. I see in your log entry here that you have after the entry 2:15 Duxbury Reef, in brackets, "Approx." Is that your writing? A. Yes, sir.

Q. What does that "approx" mean?

A. Approximately, it was abeam.

Q. Approximately? A. Yes, sir.

Q. So that the entry of 2:15 is not intended to be exact?

A. It ain't exact, no; we did not see the buoy, so we could not say for sure.

(Testimony of Joseph W. Ettershank.)

Q. Now, she continued full speed after leaving Duxbury Reef, did she not? A. Yes, sir.

Q. Up to what time? A. 3:10.

Q. So that from 1:45 to 3:10 the vessel was making full speed? A. Yes, sir.

Q. What is the distance from Red Buoy No. 2 to—what would be the distance run by the boat from Red Buoy No. 2 at 1:45 to 3:10—how far would she have run by 3:10 going full speed?

A. From 1:45?

Q. Yes. A. From Red Buoy, to 3:10?

Q. Yes.

A. The log showed 19.6 knots when we hauled it in.

Q. 19.6 miles?

A. Yes, 19.6. She was a little bit fast, so it [454—335] would be about 19 miles that she run.

Q. It would be about 19 miles? A. Yes.

Q. How far is it from the North Heads to Red Buoy No. 2—two miles, isn't it?

A. About two miles, yes.

Q. When did she pass the North Heads?

A. Point Bonita?

Q. 1:37, was it not?

A. 1:37, yes, Point Bonita.

Q. Was that the time you altered your course for the North Channel, 1:37? A. Yes, sir.

Q. 1:37 North Heads, 1:45 Red Buoy No. 2, two miles in 8 minutes, isn't it?

A. 1:37 to 1:45, 8 minutes, yes.

Q. Two miles in 8 minutes? A. Yes.

(Testimony of Joseph W. Ettershank.)

Q. That speed was the same speed that you were running after leaving Red Buoy No. 2, was it not—the engines were still at the same revolutions?

A. Yes.

Q. Two miles in eight minutes, is 15 knots an hour, isn't it? A. 15?

Q. What is that?

A. If she had made it, yes.

Q. She must have made it?

A. She made it in the first eight minutes.

Q. Answer the question; two miles in eight minutes is a rate of speed of 15 knots an hour, isn't it?

Mr. DENMAN.—I object to that question as calling for the conclusion of the witness.

Mr. McCLANAHAN.—Q. Answer the question, Mr. Ettershank, if you can.

A. That is, if the vessel run—for the first two miles,—for the first eight minutes it shows that she had run 2 miles, yes.

Q. That was not my question. Please read the question to the [455—336] witness, Mr. Reporter.

(The last question repeated by the Reporter.)

A. It does not show—

Q. Read the question again.

(The last question again repeated by the Reporter.)

A. Yes. I don't know whether she had made that up to 3:10. It shows there that she did not make it, because the log, in half an hour, from the Red Buoy up there, is seven miles, and seven into 28 goes—it only ought to take 28 minutes when it took 30.

(Testimony of Joseph W. Ettershank.)

Q. Don't you know what—

A. She was not going 15.

Q. Was not going 15 when?

A. From that until past Red Buoy.

Q. After you passed Red Buoy? A. Yes.

Q. What stopped you from making 15 after you passed Red Buoy if you were making it before you reached it?

A. The westerly swell, I suppose, held us back some.

Q. Do you think that westerly swell held your boat back any? A. Certainly it did.

Q. What about the current there, Mr. Ettershank? Don't you know there is a current that sets north-westerly? A. It is flood tide, going out with it.

Q. Answer the question. A. Yes.

Q. Along the course from Red Buoy to Duxbury Reef? A. Yes.

Q. Don't you think that current would overcome the effect of that swell? Answer the question.

A. How does it read?

(The last question repeated by the Reporter.)

A. It would hold the ship back a little, yes.

Q. What would, the current or the swell?

A. The current would.

Q. And the swell too? Answer the question.

A. I said the current would hold the ship back.

[456—337]

Q. I ask you if the swell would?

A. Certainly it would.

Q. Answer the questions so we can get along and

(Testimony of Joseph W. Ettershank.)

get it into the record. I asked you the question and you sat dumb. We want to get along and get through.

A. I know you want to get along.

Q. I understand, Mr. Ettershank, that you logged the speed of the ship at 76 revolutions and found it 13 knots per hour; is that correct?

A. It is around 13, yes.

Q. Now, give me your best judgment of what she was making when she was going full speed before the reduction to 76 revolutions?

A. She must have been making about 14, I guess.

Q. Do you know the object of reducing the speed from 14 to 13 knots?

A. The captain, he done it, I did not do it.

Q. You don't know why he did it? Answer the question.

A. That is a matter of opinion, to reduce the speed.

Q. To reduce the speed. A. Yes.

Q. What did he want to reduce the speed for?

A. He did not want to run that fast.

Q. Why not? A. Because it was foggy.

Q. So you thought that he reduced the speed from 14 to 13 knots because it was foggy. Is that your idea? A. That is what I think, yes.

Q. When did you meet any vessel before you met the "Selja"?

A. We met a little fishing boat, one of the small fishing boats.

Q. When?

(Testimony of Joseph W. Ettershank.)

A. Oh, just after we passed Duxbury Reef.

Q. Did you meet it by the sound or by seeing the fishing boat?

A. We heard his whistle and seen him too. I heard his whistle, and then he was blowing his whistle because we was blowing ours.

Q. Did you meet any other vessel before you met the "Selja"?

A. No; we just met that little fishing boat, that is all I [457—338] remember.

Q. Let me try and refresh your recollection. Don't you remember testifying before the Inspectors in November, 1910, after the collision, and being asked there by one of the inspectors, had you met any vessel before you met the Norwegian steamer, and you said yes, and the question was then, passed by whistle or did you see them, and your answer was that you did not see them, there was one inside of us, and we met a little fishing boat?

A. I remember the fishing boat.

Q. What about this one inside of you? Don't you remember now that you did pass a vessel inside of you?

A. I think I do remember, yes. I think there was two we met before.

Q. Then your testimony before the Inspectors was true, was it not?

A. Well, yes; that has been a long time since and a fellow might make a slip, you know.

Q. So then your memory being refreshed by my reference to your testimony before the Inspectors

(Testimony of Joseph W. Ettershank.)

you now say that you did pass two boats?

A. Two boats.

Q. One on the inside and then the fishing boat on the outside? A. Yes.

Q. Did you see either of those? You remember you said before the Inspectors that you did not see either of them. Does that refresh your memory as to whether you saw them or not? Answer the question.

A. Let me just think. You are all laughing here, I do not see what the joke is about—you are smiling. There was two steamers.

Q. You met two steamers? A. Yes.

Q. You did not see them, though?

A. I seen the small fishing boat. [458—339]

Q. But you did not see the steamers? .

A. No, sir.

Q. You met them by whistle. Where was the first whistle from the steamer that you heard, on what bow? Can't you answer that question?

A. Just wait a minute now.

Q. All right. Take your time.

A. I have more time than money. I think she was off, if I remember right—I think the steamer was on the port bow and the fishing boat was inside of us.

Q. I am talking now about the first steamer's whistle.

A. The first whistle was on the port bow.

Q. On the port bow. A. Yes.

Q. About how many points?

(Testimony of Joseph W. Ettershank.)

A. I don't remember now.

Q. How many times did you heard her whistle?

A. I don't remember that now, either.

Q. Several times? A. I don't remember.

Q. Do you know how far off she was?

A. No; she was away off.

Q. Away off from you—how far?

A. A mile—you could just hear her whistle; that is all.

Q. Were you on the bridge at the time?

A. The captain was there, too, yes.

Q. You and the captain were both there?

A. Yes, sir.

Q. Did you speak of the whistle to him?

A. I said, a whistle on the port bow, did you hear it, and the captain said he heard it, and the man sung out at the lookout.

Q. The captain said he heard it? A. Yes.

Q. You could not see the boat. A. No.

Q. The next whistle was on what bow, the steamer's whistle that you heard before you came up with the "Selja"?

A. The starboard bow. [459—340]

Q. Do you know how many points on the starboard bow?

A. Oh, I don't remember, I could not tell—no use saying, because I don't remember.

Q. What course was this second steamer on, going your way or coming toward you?

A. She was bound south.

Q. Bound for the entrance? A. Yes, sir.

(Testimony of Joseph W. Ettershank.)

Q. Was the other vessel bound for the entrance also? A. Yes.

Q. And you did not see the second vessel?

A. There was a fishing boat, one of them fishing tugs.

Q. I am talking about the two steamers that you saw?

A. One was a steamer and one was a fishing boat, I am telling you.

Q. You did not see two steamers? A. No, sir.

Q. You said a little while ago that you saw two steamers. A. Well, I meant the other two.

Q. Did you see the steamer before you saw the fishing boat? A. No, sir.

Q. Did you see the fishing boat?

A. Yes, we seen the fishing boat.

Q. How soon was that—how near was that?

A. She was about half a mile or three-quarters of a mile off.

Q. So then you did not hear her whistle at all if she had one? A. She blew with her whistle.

Q. A sailing boat?

A. A fishing—steam launch—one of those small fishing steamers.

Q. A fishing steamer?

A. A fishing boat—one of the Pallidini fishing boats.

Q. You did not stop when you heard the steamer's whistle on the port bow, did you?

A. No, sir, too far off; we was clear of it.

(Testimony of Joseph W. Ettershank.)

Q. You heard several whistles, too, did you?

A. We heard it blow two or three times. [460—

341]

Q. How far off was she?

A. I don't know how far off she was.

Q. You said she was too far off a minute, too far off to indicate any danger of collision? A. Yes.

Q. How far is that, in your judgment?

A. Oh, she was all of a mile off, I guess, a mile away from us.

A. A mile off? A. Yes.

Q. So you had located that whistle sufficient to warrant you, in your judgment, that there was no danger of collision? A. We was clear of danger.

Q. And that is the reason you did not stop?

A. Yes.

Q. Mr. Ettershank, did you have anything to do with furnishing the information to the San Francisco and Portland Steamship Company from which they drew the answer in these cases?

A. What do you mean?

Q. You have told your story, have you, before, to Mr. Denman, or to some attorney for the San Francisco—

A. (Intg.) We talked it over, yes—we talked it over.

Q. You have told them practically what you told me? A. Yes.

Q. With reference to the speed of the "Beaver," have you told them about that?

A. We talked that over too, yes.

(Testimony of Joseph W. Ettershank.)

Q. When was this that you talked this over?

A. Oh, after the collision.

Q. After the collision? A. Yes, sir.

Q. Was it before any suit was brought?

Mr. DENMAN.—Q. Do you know when the suit was brought? A. Sir?

Q. Do you know when the suit was brought?

A. We was out in the drydock when the marshal came aboard.

Mr. McCLANAHAN.—Q. So you knew when the suit was brought [461—342]

A. I don't remember the date, but I remember the fact.

Q. And it was before that that you talked that over? A. We talked it over, yes.

Q. Before that?

A. The captain and I talked it over, yes.

Q. I am talking now about talking with the attorneys for the company.

A. No. I don't remember whether it was before or after; I can't remember that, sir.

Q. At any rate, you do not know that any of the information which you gave to the attorneys was used by them in framing an answer in this case?

A. I do not think it would because I told them the story just the way it happened. I don't see any framing up about it.

Q. Well, we are not charging a frame-up. When you passed Duxbury Reef who was on the bridge with you? A. I had the quartermaster there.

Q. Anybody else? A. No, sir.

(Testimony of Joseph W. Ettershank.)

Q. When you passed Duxbury nobody but the quartermaster was there. Are you sure of that?

A. I think the captain stepped on the bridge for a minute and asked me if I heard the whistle and I told him no. He was down underneath the bridge, there was a wind break, you know, there, and you can hear a whistle there sometimes that you can't hear on the bridge, a shelter up there, you know.

Q. The captain was not on the bridge when you passed Duxbury Reef?

A. He came up there and told me to change the course, which I did. He always came on the bridge and changed the course.

Q. If he came on the bridge he must have been down before he came up. Isn't that correct? He was not on the bridge when you passed Duxbury Reef? A. When we passed it? [462—343]

Q. Yes. A. Sure he was there.

Q. I thought you said he was down below and came up and asked you if you had heard the whistle.

A. He was down there and he came up on the bridge and asked me if I heard the whistle, and he wanted to know what the log read.

Q. Was he down below and off the bridge when you heard the whistle?

A. When he said that he heard the whistle I said I never heard them—yes.

Q. How long had he been off the bridge at that time?

A. I don't remember, sir, how long it was.

Q. Considerable time? A. No, sir.

(Testimony of Joseph W. Ettershank.)

Q. But you can't remember the time? A. No.

Q. Did he come on the bridge and then ask you if you heard the whistle?

A. He asked me if I heard the whistle and I told him I did not hear it. I think I was on the starboard side listening for the whistle,—I think I was.

Q. The quartermaster would not hear it on the port side?

A. No, I guess I would hear it quicker than he would.

Q. You did not hear the whistle? A. No.

Q. The captain said he had?

A. He said he had heard it.

Q. How far were you from Duxbury according to your memory?

A. We generally pass about a mile off.

Q. A mile off?

A. Or three-quarters of a mile from there.

Q. How far do you think you were off this day, according to your course laid—

A. About three-quarters.

Q. According to your course on the chart it is three-quarters of a mile, isn't it? A. Yes.

Q. Can you hear that whistle three-quarters of a mile? [463—344]

A. I have been pretty close to it and not heard it all, sometimes.

Q. Answer that, can you hear that whistle three-quarters of a mile off?

A. Sometimes you can and sometimes you can't.

Q. What would be the conditions that would make

(Testimony of Joseph W. Ettershank.)

it possible to hear it?

A. If the wind was blowing in your favor, you could sometimes hear it.

Q. Have to be a pretty strong wind, wouldn't it?

A. Yes.

Q. And if there is no wind blowing it is pretty hard to hear.

A. If blowing you ought to hear it.

Q. Hard to hear it?

A. No, you ought to hear it.

Q. How far should you hear the Duxbury whistle under ordinary conditions then?

A. Anywhere within a mile.

Q. What kind of a whistle is that?

A. Just a whistling-buoy—a whistling-buoy.

Q. That whistle is just agitated by the water?

A. Yes.

Q. I understand, Mr. Ettershank, you did not hear the Point Reyes whistle at all that day.

A. Point Reyes whistle?

Q. Yes.

A. No, I did not hear the Point Reyes whistle either.

Q. Nobody on your ship seems to have heard it. Do you know of anybody that did? A. No.

Q. Yet you know it was blowing?

A. After it cleared up I could see the steam from the whistle.

Q. You could not hear it? A. No, sir.

Q. You were six miles or more away from it at that time? A. Yes.

(Testimony of Joseph W. Ettershank.)

Q. And that was approximately the point of the collision? A. Yes.

Q. Did you think it strange that you did not hear it at six miles? A. What? Point Reyes?

Q. Yes. [464—345]

A. No. That is a pretty long way off to hear it.

Q. How far have you heard the Point Reyes whistle?

A. Well, I have passed within two miles of it and have not heard it sometimes.

Q. How far have you heard it?

A. Well, I don't know how far.

Q. You can hear the whistle ten miles, can't you?

A. You can't.

Q. How do you know? A. What?

Q. How do you know you can't?

A. You can't hear it 10 miles.

Q. Did you ever hear of a whistle being heard that far, ten miles? A. No, sir.

Q. Never heard of a whistle being heard ten miles?

A. No.

Q. How great has been the carrying sound of the loudest whistle you ever heard?

A. It is pretty hard to tell.

Q. You don't know. You have not had much experience in that line, have you?

Mr. DENMAN.—You mean in the line of measuring the distance of whistling?

Mr. McCLANAHAN.—Q. In the line of hearing whistles?

(Testimony of Joseph W. Ettershank.)

A. Sometimes you can hear three and four miles off.

Q. You are speaking of steamer's whistles now?

A. Any whistle.

Q. Any whistle. Makes no difference whether it is a steamer or siren? A. No.

Q. You know Point Reyes whistle is a siren?

A. Yes.

Q. You know what a siren is? A. Yes.

Q. It is different from a steamer whistle, is it?

A. Yes.

Q. You heard the "Selja's" whistle, though, did you, the first one, all right? A. Yes.

Q. Did it surprise you? A. Sir?

Q. Did it surprise you?

A. No. I heard it just the same as I [465—346] hear any other whistle blow.

Q. You did not change the wheel to starboard when you first heard that whistle?

A. I sung out to the captain right away.

Q. The captain came up on the bridge?

A. He came up on the bridge immediately.

Q. And changed the wheel?

A. He changed the wheel.

Q. He did that himself? A. Yes.

Q. Do you know why he did it?

A. Why he done it?

Q. Yes.

A. Yes. He thought the steamer was coming down the coast, and he thought he would clear them that way, so he starboarded the helm, and when he

(Testimony of Joseph W. Ettershank.)

seen her and saw she was not further away, then he ported the helm, my judgment is, and backed her to get clear of her.

Q. Did you hear the three whistles that the "Selja" gave?

A. Yes, she blowed three whistles after we was backing, after we blowed our three whistles.

Q. You had no difficulty in hearing those, did you?

A. No.

Q. How long was it before the collision that you heard the first whistle of the "Selja"?

A. Oh, I think about two minutes before—I guess.

Q. And you heard the second about a minute afterwards?

A. About that, because our whistle blows—we had the automatic set; it blows five second blasts in 55 seconds interval, making a blast every minute.

Q. After you had blown your whistle and hearing the "Selja's" whistle, then the "Selja" answered your first whistle?

A. I heard it again, yes.

Q. You were telling something about this place where the captain stood below the bridge as being a vantage point for hearing things. [466—347] Is it better than the bridge?

A. Well, your head is over the boats there down below there, it is shelter like, and sometimes you can hear better than you can hear on top.

Q. For what reason?

A. There is no wind whistling around you.

Q. No wind whistling around you? A. No.

(Testimony of Joseph W. Ettershank.)

Q. Is that the only reason? Answer the question, please?

A. What is that? That you hear the whistling better down there?

Q. Yes. What is the answer?

A. I tell you you can hear it better down below sometimes, you can hear the whistle down there and sometimes not on top.

Q. I asked you if the wind was the only reason, the absence of wind was the only reason that you could hear better than on the bridge? Answer the question, please? Please answer the question.

A. What is that? I have answered that once, sir, didn't I tell you—

Q. Mr. Ettershank—

Mr. DENMAN.—Let him finish. Do not interrupt the witness.

Mr. McCLANAHAN.—We are waiting for you to answer the question.

Mr. DENMAN.—Q. What were you saying?

Mr. McCLANAHAN.—Q. What did you tell me in answer to the question?

A. I say, it is sheltered down there and you can hear better.

Q. Because there was no wind there. Is there any other reason that you can hear better?

A. I don't know.

Q. Is it pretty well known, Mr. Ettershank, that you can hear sometimes better down there than on the bridge? A. Yes.

(Testimony of Joseph W. Ettershank.)

Q. The officers understand that, do they not, and know it?

A. Well, I have been down below and heard a whistle myself sometimes before they heard it on the bridge.

Q. You think that is because of the wind you get on the bridge. [467—348]

A. I don't know. May be they have got better ears. I don't know what; perhaps the captain has got better ears.

Q. Perhaps your ears are better down below than on the bridge. A. No, I won't say that.

Q. Did you have a man stationed at this vantage point below the bridge?

A. I had a man on the lookout, and a man on the bridge—no.

Q. You did not have one at this place where the captain was? A. No.

Q. That was a good place to have a man, was it not, if the captain could hear the Duxbury whistle and you on the bridge could not? That was a good place to have a man, was it not?

A. I had a man stationed where I could see him.

Q. What is that?

A. I had the men in the proper places.

Q. What time did the fog shut down thick, Mr. Ettershank?

A. What time did it shut down thick?

Q. Yes.

A. After we had got past the Red Buoy it shut in.

Q. After you passed the Red Buoy? A. Yes.

(Testimony of Joseph W. Ettershank.)

Q. And it was thick up to the time of the collision, was it? A. Yes, sir.

Q. How far could you see—about two ship-lengths? A. Well, around that.

Q. At the time of the collision—about two ship-lengths at the time of the collision?

A. About that, yes.

Q. You feel quite clear that this first whistle of the “Selja” was heard on the starboard bow, do you?

A. Yes, on the starboard bow.

Q. About one point? A. Yes, sir.

Q. And after your head had swung half a point to port the bearing. [468—349] was still on the starboard bow? A. Around that.

Q. What did that indicate to your mind, Mr. Ettershank, with reference to the “Selja,”—that she was moving? A. Yes.

Q. That she was going ahead? A. Yes.

Q. As a matter of fact she was not? A. No.

Q. Did you see the “Selja” before she whistled three times? A. Did I see her?

Q. Yes. A. Yes.

Q. Before she whistled three times? A. Yes.

Q. But you did not see her until after you heard her second fog-whistle?

A. We seen her after we heard the second fog-whistle, yes.

Q. And it was then that you heard her whistle, after you had seen her?

A. After we had seen her—after we went astern and we blew our three whistles, she answered it.

(Testimony of Joseph W. Ettershank.)

Q. Did she blow three whistles as soon as you saw her? A. No.

Q. How long was it, two or three minutes between?

A. Oh, a matter of a few minutes after, yes.

Q. Two or three minutes after? It was not that long, was it?

A. No. I don't know what time it was, because I was not watching that, I did not time that.

Q. Was it a matter of seconds between seeing her and seeing her blowing three whistles?

A. Well, it was around a minute, I guess or so after we blew our three whistles.

Q. That is around a minute after the "Beaver" had blown the three whistles the "Selja" blew three whistles?

A. She answered our three whistles, yes.

Q. When you first saw the "Selja" she was in the trough of the [469—350] sea, you say?

A. Yes.

Q. And you were coming right to her beam?

A. Yes; she was on our starboard bow.

Q. Then if that swell was a westerly swell, she was lying in the trough of the swell and you were approaching her on your south 82 west magnetic course at right angles; is that right?

A. We was steering north 86 west.

Q. That is near right angles, is it not? A. Yes.

Q. Did the "Selja" swing any before you struck her? A. I don't know.

Q. Have you got a good memory, Mr. Ettershank?

A. Sure—I have a pretty good memory.

(Testimony of Joseph W. Ettershank.)

Q. You say sure?

A. A pretty good memory; not very.

Q. Was there anything significant in this conversation that you heard on the bridge between Captain Lie and Captain Kidston? A. Anything what?

Q. Significant. Important? A. Yes.

Q. What was it that was important.

A. He said he had been stopped still for 10 minutes.

Q. That was important, was it?

A. Sure it was.

Q. Anything else in it that was important?

A. He had heard our whistle for 15 minutes before.

Q. Before what? A. Before we hit him.

Q. That was important, was it, in your mind?

A. Yes.

Q. Anything else important?

A. He said that he was stopped still and he was taking soundings.

Q. So practically all of that conversation that you heard was important, Mr. Ettershank?

A. Yes, sir.

Q. In your mind? A. Yes, sir. [470—351]

Q. What was the importance which you attached to the statement of Captain Lie that he had been stopped still for 10 minutes?

A. If he had stopped still, he was blowing his fog whistle for under way, and he ought to have blown two whistles.

Q. He ought to have blown two whistles?

A. Yes.

(Testimony of Joseph W. Ettershank.)

Q. Did you hear Captain Kidston ask him why he didn't blow two whistles?

A. I don't remember whether I did or not; I would not swear.

Q. Did you ask Captain Lie why he did not blow two whistles?

A. No, I never spoke to the captain. The captain was talking to my captain, I did not speak to him.

Q. Did Captain Kidston ever after that conversation talk with you about his failure to blow two whistles? A. Yes.

Q. When was that?

A. That was after the collision.

Q. Whereabouts?

A. San Francisco—no, I don't remember now where it was; we was talking over it any way.

Q. After you got ashore?

A. I don't remember where it was.

Q. You don't remember when it was?

A. Well, it was after the collision we was talking about it.

Q. After you got ashore? A. Yes.

Q. You don't remember the time? A. No.

Q. And he told you that Lie should have blown two whistles?

A. I do not know whether he said it or I said it. I think the captain said, "you did not hear no two whistles" or if there was two whistles and I said no, it was not.

Q. The captain heard but one of the "Selja's" whistles? A. Yes.

(Testimony of Joseph W. Ettershank.)

Q. That is after he had reached the bridge?

A. After he had reached the bridge, yes [471—
352]

Q. Do you know why he stopped and reversed his engines at that time? A. Why he done it?

Q. Yes.

A. To get clear of him, go around his quarter.

Q. Why was it necessary to get clear of him?

A. On account of the headway on him, he was crossing our bow.

Q. Wasn't he a long ways off? A. What?

Q. Wasn't he a long ways off? What was the necessity for stopping and reversing your engines? The whistle told you you were right on top of him, didn't it. A. We was pretty near, yes.

Q. The "Selja's" whistle told you you were pretty near him; is that right? A. Yes.

Q. And that was the reason for stopping and reversing and trying to avoid the collision? Answer the question. A. Yes.

Q. You say you have got a good memory. Now, I wish that you would give me this conversation in the words that you remember of it, the conversation between Captain Kidston and Captain Lie on the bridge.

A. Well, Captain Lie came on the bridge.

Q. Who spoke first? A. Our captain did.

Q. What did he say? A. Well—

Q. Can you remember his exact words?

A. Well, I did not listen to it all.

Q. I am talking about the words he used that you

(Testimony of Joseph W. Ettershank.)

remember of hearing. Can you remember them?

A. Well, he said, "Captain, you have got dry clothes on" and Captain Lie says, "yes."

Q. Those are the words that he used?

A. I won't say they are the exact words, word for word, but they amounted to like that.

Q. Well, what else?

A. And he says, "I am all right—I have got dry clothes on, I am all right." Captain Kidston says, "I am [472—353] sorry," he said, "I sunk your ship."

Q. Are you sure he said, "Sunk your ship"?

A. Our captain?

Q. Those are the words he used—those words.

A. Well, I wouldn't say—he might have said "sank your ship."

Q. Are you sure he either said "sunk" or "sank your ship"?

A. I am pretty sure that it was like that, or something to that effect, I don't know exactly.

Q. Didn't he say "I am sorry I put you out of command"?

A. He might have said that.

Q. He might have said that. A. Yes.

Q. What was the next thing that happened in the conversation?

A. He said he had been stopped still there for ten minutes taking soundings.

Q. Did he say "stopped still"?

A. Stopped still, yes.

Q. Or at a standstill? A. At a standstill.

Q. At a standstill; that was the words, was it not?

(Testimony of Joseph W. Ettershank.)

A. Yes.

Q. This statement that he had been at a standstill for 10 minutes was not in answer to any question from Captain Kidston but was volunteered by Captain Lie, was it? A. He was telling him, yes.

Q. Not in answer to any question from Captain Kidston; he just volunteered the statement, "I was at a standstill for 10 minutes taking soundings"?

A. Captain Kidston says, I think—let me see—he says, "I have been stopped still for 10 minutes," he says—

Q. At a standstill.

A. At a standstill for 10 minutes taking soundings. And he says, "I knew it was either the 'Bear' or 'Beaver,' because I heard the whistle for 15 minutes."

Q. I understand that. Mr. Ettershank, I want to know whether that was a voluntary statement on the part of Captain Lie, or was it [473—354] in answer to some question that Captain Kidston had put to him?

A. Captain Kidston asked him if he heard the Point Reyes whistle or something like that, if I remember right.

Q. Captain Kidston asked Lie if he had heard Point Reyes whistle. A. Yes.

Q. And what did Lie say to that?

A. Well, I don't remember.

Q. Did Lie make answer to it that you heard?

A. I don't remember.

(Testimony of Joseph W. Ettershank.)

Q. You don't know whether he answered that or not? A. No.

Q. Was it then that Captain Lie said, "I was at a standstill for 10 minutes taking soundings"?

A. Yes.

Q. After the question from Captain Kidston as to hearing Point Reyes whistle; is that correct?

A. Yes.

Q. Did you note the time of the collision?

A. Yes.

Q. What time was it? A. 3:16 when we hit.

Q. 3:16? A. 3:16.

Q. You looked at your watch?

A. I had the watch, pulled it right out of my pocket.

Q. Did Captain Kidston know the time of the collision? A. I sung out 3:16, sir.

Q. So he knew from you the time of the collision?

A. Yes. I don't know whether he looked at his own watch or not, I could not tell you that.

Q. What is that?

A. I don't know whether he looked at his own watch or not.

Q. Did anybody else on the bridge know the time of the collision besides you and Captain Kidston?

A. There was one quartermaster.

Q. Did the third officer know?

A. He was not there; it was his watch below.

Q. Did the quartermaster?

A. I don't know whether he heard me say [474—
355] it or not, I could not tell you that.

(Testimony of Joseph W. Ettershank.)

Q. What is the object of having a quartermaster on the bridge?

A. What do we have him up there for?

Q. Yes.

A. To keep a lookout and watch for whistles.

Q. Do you have them there when you have two officers on the bridge?

A. Two officers on the bridge?

Q. Yes.

A. We had the quartermaster up there when the captain and myself was up there on the bridge in the foggy weather that day.

Q. What for? A. To keep a lookout.

Q. To keep a lookout?

A. Listen for whistles and look out.

Q. Where did you station them?

A. Off on the bridge and one in the wings.

Q. And where did you stand, the other wing?

A. Walked across the bridge or in the other—I walked across on both sides watching the compass and that.

Q. Your idea is that three men can hear better than one, is that it?

A. I guess it is; what one don't hear the other might.

Q. You don't have two men at the bow, one at port and starboard? A. No, sir.

Q. Just put the extra man on the bridge?

A. Yes.

Q. When was this quartermaster put on this bridge this day, November 22d?

(Testimony of Joseph W. Ettershank.)

A. When was he put there?

Q. Yes.

A. He was from the time he came from the wheel at 2 o'clock, when he came on the bridge.

Q. So he was on the bridge from 2 o'clock on?

A. Yes, with the exception of he went down to the engine-room for the orders and to read the log for Duxbury Reef.

Q. As a matter of fact he does errands for the captain?

A. He is a messenger when he is out from steering the ship. [475—356]

Q. But he is always on the bridge when there is fog?

A. In foggy weather, yes, he is, and at night-time, when it is dark.

Q. Does he do any messenger work when it is foggy?

A. Have to send him to read the log, yes.

Q. Then he never leaves the bridge when the captain is off the bridge, leaving one man on the bridge in a fog, does he?

A. Yes, the quartermaster goes aft to read the log and the captain might step off the bridge, you know.

Q. That happens sometimes, does it?

A. He might step right down below, you know.

Q. Mr. Ettershank, I believe you said that the "Beaver" under the port helm was swinging rapidly to starboard before the collision, Is that right?

A. She started to swing, yes, before we hit.

Q. Fast?

(Testimony of Joseph W. Ettershank.)

A. Yes. She was going. The helm was hard-a-port, because we have a tell-tale on the bridge, and I could see it.

Q. She was swinging rapidly then? A. Yes.

Q. Now, you also said that the "Selja" had no way on her. A. I could not see any.

Q. How could you see whether she had any way on if you were swinging to starboard rapidly? If she had way you could not tell it, could you?

A. You could see her wake from the wheel working, wouldn't you?

Q. I am asking you the question. You could not tell it if you were swinging rapidly to starboard?

A. Could not tell it?

Q. Yes. Answer it.

A. You can't tell whether she had way on her or not while she was swinging fast, but it looked as though she had way—as though she did; you might think she had. [476—357]

Q. You think the "Selja" had way on her?

A. No, I ain't saying that. I say anybody might think it.

Q. But you think she did not have any way on?

A. No, sir.

Q. What made you think that?

A. Because she was laying in the trough of the sea.

Q. Lying where? A. In the trough of the sea.

Q. Couldn't she have way on her in the trough of the sea?

(Testimony of Joseph W. Ettershank.)

A. She could, yes, but then if he had been at a standstill—

Q. (Intg.) —for 10 minutes—

A. (Contg.) For ten minutes, the ship, at a standstill, would naturally swing in the trough of the sea.

Q. So that your statement that she had no way on her is influenced somewhat by the captain's statement that she was at a standstill for ten minutes, isn't it? A. Yes.

Q. Did you ever make a written statement, sign a written statement of what you knew of the facts in this case? A. Of the testimony, like?

Q. Of the facts, I did not say testimony. Of the facts. Did you ever sign a written statement of the facts? A. You mean of the story—

Q. Of the story. A. Of the collision?

Q. Yes. A. Yes.

Q. Have you got a copy of it? A. Yes.

Q. Produce it, please.

A. Mr. Denman has got that. I don't know if I have got it or not. I don't know whether I have it with me or not. (Producing.)

Q. When was this statement made up?

A. Before Christmas, when I was up in Mr. Denman's office here.

Q. Were you up here alone? A. No, sir.

[477—358]

Q. Who was with you?

A. The captain and the quartermaster and them.

Q. The third officer?

A. No, he was not with me that day.

(Testimony of Joseph W. Ettershank.)

Q. Who prepared the statement?

A. Who prepared it?

Q. Yes.

A. Well, I just told the facts and it was taken down.

Q. It was taken down in shorthand? A. Yes.

Q. And then afterwards typewritten? A. Yes.

Q. And then you were called up again and signed it? A. Yes.

Q. Did you read it? A. Yes.

Q. And then sign it? A. Yes.

Q. Did the others sign a similar statement, the other officers and the crew?

A. I did not see them, I believe they were all asked, they were all called to sign.

Q. You have got a copy of this statement, have you? A. Yes.

Q. Let me see it, please. A. There it is.

Mr. McCLANAHAN.—I will introduce this in evidence and ask to have it marked.

(The paper is marked Libelant's Exhibit 14.)

Q. This paper has been in your possession ever since it was handed to you in December last?

A. I had it, yes.

Q. It has been in your possession, I say?

A. Yes; since the time it was handed to me.

Q. And that was in December last?

A. No, it was after that I got it.

Q. After that you got it. How long after?

A. Oh, I don't remember.

Q. Did this conversation form a part of your state-

(Testimony of Joseph W. Ettershank.)

ment when you were examined in Mr. Denman's office in December?

A. What is that—this statement?

Q. Did this conversation that you heard on the bridge between [478—359] Captain Lie and Captain Kidston form a part of the statement which was given by you in Mr. Denman's office in December? Do you understand that question?

A. You ask me—

Q. Do you understand the question?

A. Yes, I understand what you mean.

Q. Well, answer the question. A. Yes.

Q. Is it "yes"? A. Yes.

Q. And that was the statement which was taken down by a stenographer?

A. That was taken down by the stenographer, yes.

Q. Let us get this perfectly clear; in December in Mr. Denman's office you made a statement of facts?

A. Regarding the collision.

Q. Concerning the collision. A. Yes.

Q. And in that statement of facts you recited this conversation which you heard between Captain Lie and Captain Kidston on the bridge of the "Beaver" and all that version was taken down by a shorthand reporter in this office? Is that correct?

Mr. DENMAN.—Q. Do you read shorthand?

Mr. McCLANAHAN.—I object to counsel interrupting the witness.

Q. Will you answer that question?

A. We talked it over, yes. He asked me what I heard and I told him what I heard.

(Testimony of Joseph W. Ettershank.)

Q. Will you read the question to the witness, Mr. Reporter?

(The last question repeated by the Reporter.)

Q. I will ask you, Mr. Witness, to answer the question yes or no.

Mr. DENMAN.—I object to the question on the ground that the man has not been shown to be an expert at handwriting and cannot tell what the stenographer took down.

A. I suppose they took it down. They asked me questions and I suppose they took it all down. I don't know, I can't reat that. [479—360]

Mr. McCLANAHAN.—Q. Now, Mr. Ettershank—I see you got the cue—this conversation on the bridge about Captain Lie's lying at a standstill for 10 minutes was known to be important at this conference that you had, this meeting, was it not, it was recognized as something important?

A. Important, sure.

Q. Sure it was important. And the men who were at that conference in this office all stated that version, did they not, and it was taken down by a shorthand reporter?

Mr. DENMAN.—There is nothing in the evidence to show that.

Mr. McCLANAHAN.—I am asking that question.

The WITNESS.—What is that, Mr. Denman?

Mr. DENMAN.—Never mind that. That was for the record, that is all.

Mr. McCLANAHAN.—Read the question, Mr. Reporter.

(Testimony of Joseph W. Ettershank.)

(The question repeated by the Reporter.)

Q. I will add to that question, all the men who heard the conversation made the statement of it here in this office and it was taken down by a shorthand reporter. Is that right?

A. I guess he must have wrote it down after I said it.

Q. You do not quite understand my question. I say all the men who were in this office who heard the conversation on the bridge made a statement of it, and it was taken down in shorthand; is that correct? A. It was taken down.

Q. And they made the statement?

Mr. DENMAN.—Who do you mean by “they”?

Mr. McCLANAHAN.—The men who heard the conversation. Don’t you understand my question?

Mr. DENMAN.—I want to get it clear to the witness.

He is trying to find out what was said by the men who were here [480—361] and who heard the conversation, Mr. Ettershank. You have not shown that the men were here.

Mr. McCLANAHAN.—Q. Do you understand the question?

Mr. DENMAN.—Q. I object to the question on the ground it is not shown that the men who heard the conversation were here.

Mr. McCLANAHAN.—Q. Captain Kidston was here?

A. Mr. Denman was here.

Q. Captain Kidston? A. Yes.

(Testimony of Joseph W. Ettershank.)

Q. And you were here? A. Yes.

Q. And the quartermaster was here?

A. I think they were out in the anteroom.

Q. The quartermaster was here at the conference in December in this office?

Mr. DENMAN.—You mean in this room or in the anteroom?

Mr. McCLANAHAN.—Q. I don't know where he means.

A. I don't remember—in here, I guess, they was.

Mr. McCLANAHAN.—Read my last question that was interrupted.

(The last question repeated by the Reporter.)

Q. Did the men who heard the conversation between Captain Kidston and Lie on the bridge make a statement of that conversation that was taken down by a shorthand reporter? Can't you answer that yes or no?

A. There was only Captain Kidston, Mr. Denman and myself and a stenographer at the time we were talking, I think.

Q. If that was all that were here, did Captain Kidston make that statement of that conversation and was it taken down in shorthand?

Mr. DENMAN.—Q. In your presence? A. No.

Mr. McCLANAHAN.—Q. He did not?

A. He just listened to what I had to say; that was my statement, I was talking. [481—362]

Q. Did not Captain Kidston make a statement also? A. He said he had heard it, yes.

Q. He heard what?

(Testimony of Joseph W. Ettershank.)

A. That he heard what Captain Lie said.

Q. And was this statement of his taken down in shorthand? A. Was his statement taken down?

Q. Yes. A. I guess it must have been, yes.

Q. Yours and his were both taken down in shorthand? A. Yes.

Q. Who was this stenographer, a man or a woman?

A. A lady.

Q. Would you recognize the lady if you saw her now? A. Yes.

Q. Is that the lady? (Pointing to a young lady in the outer office.) A. Yes.

Q. This exhibit, which purports to be your copy of your statement is a copy of the statement which you did sign? A. Yes.

Mr. McCLANAHAN.—Will you please produce the original, Mr. Denman?

Mr. DENMAN.—There it is.

The WITNESS.—Are you going to keep that?

Mr. McCLANAHAN.—It is introduced in evidence.

Q. But the time of signing this, Mr. Ettershank, you do not remember? A. No, sir.

Mr. McCLANAHAN.—I offer this original in evidence also.

(The paper is marked Libelant's Exhibit 15.)

Q. After the statement was prepared, or rather, before the statement was prepared, did you have a talk with Captain Kidston about the collision?

A. Oh, yes, we had a talk two or three different times.

(Testimony of Joseph W. Ettershank.)

Q. Before you came to this office did you have a talk with him?

A. Yes. I talked with Mr. Denman, too, I think.

Q. And after you came to this office you still have conversations [482—363] with Captain Kidston about the collision? A. Yes.

Q. Of course there is nothing wrong in that.

A. No. We can talk the same as anybody I meet on the street, I talk to.

Q. And this conversation between Kidston and Lie on the bridge was the subject of the conversations with Captain Kidston, was it not?

A. Why, we talked about different things.

Q. But that was one thing you talked about, was it not? A. We talked that over in here.

Q. And you talked it over out of here, did you not?

A. Out of the office?

Q. Yes.

A. Yes, we talked about it out of the office too.

Q. You are still in the employ of the San Francisco and Portland Steamship Company? A. Yes, sir.

Q. Who is her master now? A. Captain Nelson.

Q. When did he take command?

A. After we came from drydock.

Mr. HENGSTLER.—You mean he is master of the “Beaver”?

Mr. McCLANAHAN.—Yes.

Q. You are on the “Beaver” still? A. Yes.

Q. Captain Nelson took command after she come from the drydock after the collision? A. Yes, sir.

(Testimony of Joseph W. Ettershank.)

Q. He took the "Beaver" up north the next trip then?

A. Yes, the first trip after the collision.

Redirect Examination.

Mr. DENMAN.—Q. Mr. Ettershank, have you ever been in a law court before? A. No, sir.

Q. Does it embarrass you to go through this kind of an examination?

Mr. McCLANAHAN.—I object to that as immaterial. The embarrassment is shown in the record. [483—364]

Mr. DENMAN.—Well, if you admit the embarrassment has been shown in the record, I am perfectly willing. I want to get from the witness himself his own state of mind.

A. Well, you laughed at me a couple of times.

Mr. McCLANAHAN.—Q. You are talking to the stenographer now. A. Yes, he laughed at me.

Mr. DENMAN.—Q. Anybody else laugh at you?

A. You all laughed at me, I guess.

Q. Do you know how many revolutions, as a matter of fact, the engine was running in the engine-room? Do you know yourself how many revolutions she was running? A. Before?

Q. At any time, do you know what revolutions she made?

A. No, because we had not got the returns, you see. We get the returns at the end of each watch and put it down in the log-book.

Q. Now, you have a working chart that shows the coast in a more extensive scale than this one here?

(Testimony of Joseph W. Ettershank.)

A. Yes.

Q. Is that the chart on which you make up your courses? A. Yes.

Q. Now, let me ask you, where is the toilet that the captain goes to, with reference to the bridge? How far is it from the bridge?

A. Oh, about the length of this room, a little ways from the bridge—two rooms from the bridge—you know how big a bunk is—

Q. Is it about 50 feet?

A. It is not that far. Let me see. One, two, three. I guess it is about 20 feet, I guess; it can't be any more. There is three staterooms, and each one is supposed to have a bunk 6 feet.

Q. That would make it around that?

A. Somewhere around that.

Q. This statement that you put in, is that a correct statement of the facts?

A. That is correct. [484—365]

Q. Do you remember whether or not the captain's statement was taken at the same time as yours or on another day?

A. The captain's statement, I guess, was taken before mine, wasn't it?

Q. Well, do you remember whether it was taken while you were here? A. Taken while I was here?

Q. Do you remember whether it was taken while you were in here or at another time?

A. No, I don't remember.

Q. Do you know anything of your own knowledge of what the stenographer took down?

(Testimony of Joseph W. Ettershank.)

A. My statement?

Q. Do you know what she took down, whether she took down the whole of it or a part of it? Do you know anything about it yourself? Do you know anything about stenography? A. No.

Q. Do you know what she took down, as a matter of fact?

A. I don't know what she took down, no—I don't know what she took down in the book.

Q. This statement was prepared after you had the conversation here? A. Yes.

Q. It was sent to you, you read it over and signed it, and it was taken back; is that correct?

A. Yes, sir.

Q. Now, do you know whether, as a matter of fact, Captain Kidston ever made a written statement?

A. I don't know, no, whether he did or not.

Q. Did you ever see him sign it?

A. No, I never seen him sign no statement.

(An adjournment was here taken until Friday, June 30, 1911, at 9:30 A. M.) [485—366]

Friday, June 30, 1911.

[**Testimony of John Albrethsen, for Respondent.**]

JOHN ALBRETHSEN, called for the respondent, sworn.

Mr. DENMAN.—Q. Mr. Albrethsen, how long have you been at sea?

A. Well, I started to sea when I was 15 years of age; I am about 40 now.

Q. On this coast? A. No, sir.

Q. How long have you been on this coast?

(Testimony of John Albrethsen.)

A. On this coast for four years.

Q. Were you on the steamer "Beaver" at the time she collided with the "Selja"?

A. Yes, sir.

Q. Quartermaster on her?

A. I was quartermaster.

Q. How long had you been a quartermaster on her?

A. At that time I had been on her six months. I think about six months—five or six months.

Q. Were you on watch at the time of the collision?

A. Yes, I was on watch.

Q. Whereabouts were you at 3 o'clock on that day?

A. At 3 o'clock I was on the bridge, on the port side of the bridge.

Q. On the port side of the bridge?

A. Yes, sir.

Q. Did you hear any whistle from the "Selja"?

A. Yes, I heard a whistle all right.

Q. What whistle did you hear?

A. I heard one whistle.

Q. Whereabouts?

A. On the starboard bow—about one point on the starboard bow.

Q. What did you do when you heard the whistle?

A. I reported to the second officer.

Q. Was the second officer on the bridge at that time?

A. Yes, sir, he was on the bridge. [486—367]

Q. What did he do?

A. He went right over immediately and he told the captain; the captain was just down on the deck at that time, and he told the captain about it.

Q. What did the captain do?

(Testimony of John Albrethsen.)

A. He went right up on the bridge, right away.

Q. What happened then? Did the captain give any orders?

A. Oh, well, he blowed our whistle, and he listened to get another whistle from the "Selja."

Q. Was any change made, any order given, when you heard the first whistle?

A. Well, sir, that is a thing I could not know, because I was on the lookout, you know, I was on the side of the bridge, and I don't know.

Q. Then you blew a whistle and then you heard another whistle from the "Selja"?

A. Yes, I heard two whistles.

Q. What is that?

A. I heard first one and then afterward I heard another whistle.

Q. How far apart were they, about how far apart?

A. Well, I could not tell anything about that.

Q. Well, was it half a minute or a minute or a minute and a half between whistles?

A. About a minute—well, I won't say that, you see, because—

Q. You mean about a minute?

A. Yes, about a minute.

Q. What happened then on your vessel?

A. When we heard the last whistle?

Q. Yes.

A. When we heard the last whistle, he got three whistles from us and we went full speed astern.

Q. How could you tell she was going astern?

A. I could see it on the telegraph.

(Testimony of John Albrethsen.)

Q. From the telegraph?

A. That is the only thing I could see it by. [487—
368]

Q. Could you feel anything as she went astern?

A. I could feel, she was shaken a little bit.

Q. What happened then? Where were you at this time?

A. I was on the bridge at this time, but as soon as they put full speed astern they told me to go aft and haul in the log.

Q. Did you go aft and haul in the log?

A. Yes, I did.

Q. Had you seen the "Selja" before you left the bridge? A. No, I had not.

Q. Did you haul in the log? A. Yes, sir.

Q. Did you read it? A. Yes, sir.

Q. What did she read? A. 19.6.

Q. Did you report that?

A. I reported it to the second officer on the bridge.

Q. You reported it to the second officer on the bridge? A. Yes.

Q. Did you see the "Selja" when you came back?

A. When I came back on the bridge, yes, I saw her.

Q. Had the collision occurred then?

A. Yes, sir.

Q. The collision had occurred then?

A. Yes, sir.

Mr. DENMAN.—That is all.

Mr. McCLANAHAN.—No cross-examination.

[488—369]

[Testimony of Frederick Amor, for Respondent.]

FREDERICK AMOR, called for the respondent, sworn.

Mr. DENMAN.—Q. Mr. Amor, how long have you been at sea? A. I went to sea in 1873.

Q. Been to sea ever since? A. Yes, sir.

Q. On this coast?

A. Well, I have been about 16 or 17 years out here, on the Australian coast, and the rest out of my home port, that is all.

Q. Were you on the “Beaver” on the day she ran into the “Selja”?

A. Yes. I was on the lookout, sir.

Q. You were on the lookout? A. Yes, sir.

Q. How long had you been on the lookout prior to the collision?

A. Well, I went on the lookout at four bells, 2 o'clock, sir.

Q. 2 o'clock? A. Yes, sir.

Q. And what was the condition of the weather at that time?

A. Well, it was foggy, sir; and sometimes you could see a considerable distance, it would lift up once in a while.

Q. What was the condition of the sea?

A. Well, sir, we had a westerly swell; there was a regular lot of deadhead; it had been blowing before, but there was not much wind then, a little breeze, four or five knot breeze, something like that.

Q. Was the swell a light swell or a heavy swell?

A. Well, it was a big lump of a swell, sir.

(Testimony of Frederick Amor.)

Q. Did you hear any whistles from the "Selja"?

A. Yes, sir.

Q. What was the first whistle that you heard from the "Selja"?

A. The first whistle, sir, was a little on our star-board bow.

Q. What was it? A. One whistle.

Q. What did you do?

A. I reported to the bridge, sir.

Q. What was the next whistle that you heard?

A. I heard the [489—370] same whistle, you know, one whistle, again.

Q. What happened then on your ship?

A. Well, we, what I call feel off, we then stopped the ship and then commenced to vibrate, and I thought she was going full speed astern; that is the way it felt to me, sir.

Q. When did you see the "Selja"?

A. Just after I heard his whistle, it might have been half a minute or it might have been more, and it might have been less, I could not tell you.

Q. Did you see the "Selja" after or before you felt the vibrations on your own ship?

A. I saw the "Selja"—our ship commenced to vibrate after I heard the first whistle, showing our ship was going astern; and we was going astern fast when I saw the vessel; I seen her looming up in the fog.

Q. Now, then, you finally ran into her?

A. Yes.

Q. Whereabouts did you strike her?

(Testimony of Frederick Amor.)

A. Well, somewhere abaft of her forerigging, somewhere around there, I did not take particular notice, but that is where it was, around the forerigging, somewhere just abaft.

Q. Where was she lying when you first saw her, whereabouts, with reference to the sea?

A. She was laying in the trough of the sea; we was coming head on to it.

Q. And at what angle would that be to your ship?

A. Well, she was like that and we come about like that. (Illustrating.)

Q. At right angles to you?

A. I don't know whether you would call it right angles.

Q. Was she square on?

A. Yes, right square on; her nose was coming towards our bow like that. (Illustrating.)

Q. Would you say she was crossing your bow then?

A. That is what she would have done if she had had any way; I guess she did [490—371] not have any way at all.

Q. Could you tell whether she had any way on at all?

A. It didn't look like it. Maybe if she had any way we would have cleared the ship all right; we was swinging to starboard, we got our helm hard-a-port.

Q. When you hit her what angle did you hit her at?

A. Well, she was laying straight across our bow, lying straight across; we struck her right broadside on, you might call it.

Q. Do you mean hit her squarely or an angle?

(Testimony of Frederick Amor.)

A. We hit her square on, sir.

Q. How was the "Selja" pointing at the time you hit her? A. She was heading offshore, sir.

Q. I mean with reference to the ocean. When you saw her first she was lying in the trough of the sea?

A. Yes.

Q. How was she heading when you finally hit her?

A. Well, she was hardly in the trough,—I don't know, she looked to me she was kind of slewing.

Q. That is to say her bow had turned into the sea?

A. Her bow was turning to starboard; that is the way she seemed to me to be.

Mr. DENMAN.—That is all.

Cross-examination.

Mr. McCLANAHAN.—Q. Your steamer blew three whistles, did it not?

A. Yes, she blew three whistles, sir.

Q. And it was at that time that you felt the ship vibrate?

A. Yes, sir; that is the time when I felt her commence to go astern.

Q. Just as she blew three whistles?

A. Well, yes, about that time. I was looking out to see how I was going to get off the fore-castle the time she hit, and there is a lot to get in your memory, sir. [491—372]

Q. And it was just about that time that the "Selja" blew three whistles, was it not?

A. He blew a little after.

Q. After you had blown?

A. Yes. It was a half minute, I guess, before he

(Testimony of Frederick Amor.)

answered our whistle.

Q. Now when you first saw the "Selja" where were you standing?

A. I was right forward on the forecastle head, right forward, sir.

Q. Well, whereabouts?

A. Right forward, in the nose of her, sir.

Q. Was that where you were standing when you heard her first whistle?

A. That is where you can hear best; she has got a breastplate there, and you don't hear any motion of the water there, when you are right forward; that is the best place to listen.

Q. That is where you were standing when you heard the first whistle?

A. Yes, that is where I was standing when I heard the first whistle.

Q. Did you report the first whistle from that point?

A. I did, sir, right to the bridge.

Q. Without going aft?

A. Yes, and the second mate answered me—it was the second mate; yes, the second mate was on the bridge.

Q. What did you report with, a megaphone?

A. No. It is only 80 or 90 feet away and they could hear me plainly.

Q. What did you say?

A. I sung out "whistle a little on our starboard bow," sir.

Q. Did you get any answer? A. Yes, sir.

Q. What was the answer? A. All right.

(Testimony of Frederick Amor.)

Q. When you got the second whistle, did you report that? A. I sung out again, yes.

Q. Then it was after that that you saw the ship?
[492—373]

A. After that I saw the ship, sir, yes.

Q. When you saw the ship you left the bow, didn't you?

A. Well, I stood back a little. I was thinking about how to go aft, I was not going to stand there.

Q. Didn't you turn around and start aft?

A. Well, I started to go aft just about the time we was going to strike.

Q. When she struck you felt the blow, didn't you?

A. Sure, yes.

Q. Did it knock you down? A. No, it did not.

Q. How far off were you from the stem?

A. I was about 30 feet back, just about our capstan, I got hold of one of the guys of the boom; that is what I held on to with my hand.

Q. So that when you saw the "Selja" first you knew there was going to be a collision?

A. I had an idea.

Q. You were in a dangerous position on the fore-castle?

A. Yes, and I am going to look out for myself, too.

Q. And you turned around and got about 30 feet off before the blow?

A. Yes, sir, after I seen her. But I seen her some time before I commenced to go aft, but when I seen she was getting close to colliding, then I commenced to go aft. I did not go aft until after some time;

(Testimony of Frederick Amor.)

we seen the ship, we was close on top of her, I watched her until we get close to her and then I started to go aft.

Q. How long did you watch her?

A. I guess that was a minute or so before we came close, collided with her.

Q. But you watched there until you saw that the "Selja's" head was swinging to starboard?

A. Yes, sure; I watched until we was close on top of the ship before I shifted my position.

Q. Do you know what that meant, the swinging of the "Selja's" head to starboard?

A. No, I could not tell you that, sir, at all.
[493—374]

Q. Not as a seaman, you could not tell?

A. Well, I could not tell you, I don't know. That swinging, I guess, it might have been from his engines being put astern—I could not tell you, though, sir.

Q. Don't you know that if the engines of the "Selja" had been put astern she would swing to starboard?

A. Well, I have got an idea it might have done that, but I could not tell you; I ain't no navigator, and I have driven no engines in my life. I have worked with the wheel and that is all I have done in my life.

Q. Is your hearing good?

A. Yes, I can hear as good as anybody.

Q. Never had any trouble with your hearing?

A. No, I never had any trouble with my hearing.

(Testimony of Frederick Amor.)

Q. Did you hear the Point Reyes siren blowing?

A. I could not swear that I did hear it, no.

Q. Do you remember that you were on watch when you passed Duxbury Buoy?

A. Duxbury Buoy? I don't know whether I was on the lookout or not, because I don't know what time we passed there. I went on watch at four bells, 2 o'clock.

Q. Then you passed it? A. Yes.

Q. If you passed it at 2:15, you were on watch?

A. Yes, if we passed it at 2:15 I was on the lookout.

Q. Did you hear the buoy?

A. I never heard the buoy. But we passed a couple of fishing boats, these here trawlers, these big trawlers; we passed two or three of them, and they was blowing whistles.

Q. Steamboats, were they?

A. Yes, these steam trawlers.

Q. Where did you pass the first one—before or after you passed Duxbury Buoy?

A. I could not tell you whether it [494—375] was before or after we passed Duxbury; we might have been around there at that time, we might have been in that locality, and the wind might have taken that away from me on the forecastle head.

Q. Where did you first hear a whistle?

A. Which one?

Q. From one of these fishing steamers?

A. It was in the fog. I could not tell where it was. It was while I was on the lookout.

(Testimony of Frederick Amor.)

Q. You don't know what side it was on?

A. I knew the side it was on, sure. It was on the starboard side; we passed both of them on the starboard side.

Q. You passed both of them on the starboard side?

A. Yes.

Q. And these are the only two boats you passed?

A. That is all while I was there till we fell across that "Selja."

Q. How long a time separated the passing of those two fishing boats?

A. Oh, it was some time before we fell across the "Selja." A man never keeps a line on anything like that.

Q. That is not what I mean, Mr. Amor. You heard a whistle from a fishing steamer?

A. Yes, sir.

Q. Then later on you heard another whistle from another fishing steamer? A. Yes, sir.

Q. How long was it between the whistles?

A. They were pretty close together. They had left the fishing grounds and were bound in; those boats always sail in pretty close together.

Q. Of course you did not see them?

A. You could just see them—we could see them. It was not a dense thick fog all the time; sometimes the fog would lift up a little.

Q. Are you sure now you could see them?

A. They were close to us too, not far off.

Q. Are you sure you saw them?

A. I saw them, sure. I could tell that they was

(Testimony of Frederick Amor.)

fishing boats, they was right close to us; the fog [495—376] would lift sometimes and you could see—sometimes on the water-line we could see three or four miles; it was not a dense thick fog all the time.

Q. Did you take any notice of the “Selja” when you first saw her to see whether she had any way on her or not?

A. Well, I could see the vessel did not have no way on her, any man could see that vessel did not have no way on her, or we would have cleared the ship.

Q. Answer the question, did you take notice of her?

A. Well, it looked to me that she had no way on her.

Q. Answer the question, did you notice, did you look to see? That is what I am saying, did you look to see? A. Of course, I looked at the ship.

Q. Don't you remember testifying before the Inspectors in this case in November last?

A. Yes, sure I remember.

Q. Don't you remember stating that you did not take notice of whether she had any way on her?

Mr. DENMAN.—Particular notice, was it not?

Mr. McCLANAHAN.—No, take any notice.

Q. Let me read you your testimony so as to refresh your memory. The Inspector asked you this question: “Did she seem to have any way on her?” and you said, “I could not tell, sir.” Then he asked you “You saw the waterline before you came together. Do you know whether she was making any water on the bow?” Your answer was, “No, I could not say,

(Testimony of Frederick Amor.)

Q. sir.— A. Well—

Q. Wait a minute. “In fact I did not take any notice.” Which is correct?

A. Well, I tell you what I think is correct, sir. I say that ship did not have any way. [496—377]

Q. Now, then, you did not make a correct statement when you made the statement before the Inspectors, that you did not take any notice as to whether she had any way on her?

A. I told them as near as I could.

Q. Are you telling it now as near as you can?

A. I am saying I do not think she had any way on her. Now, that is the same as I told them.

Q. You are giving that testimony?

A. Certainly, sir. Ain't it right there, too?

Q. Yes, you are right.

A. That vessel might have been going ahead a little and she might have been going astern a little. I could not tell.

Q. Now, at the time of the collision you say the “Beaver” was going full speed astern?

A. Yes, that is what she felt to me. I could not go up to the telegraph and look to see, I could tell by the vibration of the ship.

Q. Did you look over the side and see the water?

A. No, I did not see the water at the time, but as soon as I got to the side I could see the water she had churned right abreast of our boat; there was no headway on, because we lowered the boat—

Q. (Intg.) When was that? After the collision?

A. After the collision, when I left the fore-castle,

(Testimony of Frederick Amor.)

we was fast in the ship, and it stayed there maybe for half a minute, I could not tell you how long it was. I got into a boat and started to lower a boat.

Q. You have said that the "Beaver" was going full speed astern? A. Yes.

Q. Now I want to know whether you mean by that that her engines were put full speed astern or whether the vessel was moving astern through the water? [497—378]

A. Oh, no; I said that the engines were going full speed astern. When we got into that boat we could see our water was churned up, and you know we had been stopped then—the back water got up as far as the bridge. The boat that we lowered down was only a little abaft of the bridge.

Q. That was after the collision?

A. That was after the collision, when I left the forecastle head and went to the boat.

Q. But before the collision, all that you know about the full speed astern movement of the "Beaver" came from your knowledge of the vibration?

A. Of the vibration, yes. You can tell in a minute when you put one of those ships astern, sir.

Q. Is it your judgment that at the time of the collision the "Beaver" had stopped her headway through the water?

A. Well, I believe so, yes.

Q. And you think the "Selja" was also dead in the water? A. I believe so, yes.

Q. How did the collision happen?

(Testimony of Frederick Amor.)

A. Well, I guess the sea brought her over on top of us.

Q. That is, the sea brought the "Selja" up and the "Beaver" down?

A. Yes, I guess the sea brought her afoul of us. Didn't hit so terribly hard, anyhow.

Q. You hit her hard enough to send her to the bottom of the sea?

A. Of course, we got her in a weak spot. (Laughter.)

Q. Have you told me all of the vessels that you met before you met the "Selja"?

A. That is the only two since I was on the lookout there; there might have been a half a dozen before I went up at four bells—I went there at 2 o'clock.

Q. After you were on the forecastle you passed two fishing steamers on your starboard bow?

A. Yes, there was two of them. [498—379]

Q. How many whistles did you hear from the first of those fishing steamers?

A. Well, we heard several of them—we heard several of those whistles.

Q. Which way was the fishing boat going?

A. It was bound into the city, sir; we was bound out. They was both going in, both sailing close together.

Q. Let us talk about the first one.

A. They was both close together.

Q. Let us talk about the first one. You heard several whistles from the first one?

A. Yes.

Q. And then she passed you?

(Testimony of Frederick Amor.)

A. Yes; and then the other one came along.

Q. How far was the fishing boat from the "Beaver" at the time she passed?

A. Well, I could not tell you, sir; in a fog it is terribly deceiving. It was not extra thick, you know. What I mean is it would lift up once in a while and you could see quite a ways. When I first heard the whistle I could not see the vessel at all, you see, and I could not tell what it was; it might have been a big Atlantic liner for all I know.

Q. After a while you did see her?

A. Yes, the fog lifted; it would lift every now and then and you could see a considerable distance then, you know.

Q. We are now talking about the first one that passed.

A. Yes, the first one passed and the other came along.

Q. When you first heard her whistle you did not see her, but later you did see her?

A. When she commenced to get abeam we did see her, yes.

Q. You heard several whistles when she passed?

A. When she passed, and the other one came in her wake. [499—380]

Q. And the other one was coming along in the same way? A. Yes.

Q. You did not see the first one?

A. When she was on our bow we did not see her, but later when she got abeam I could tell what it was.

Q. How many whistles did you hear from the fishing boats?

(Testimony of Frederick Amor.)

A. Several whistles—until they got past.

Q. You could not tell how far off they were when you heard the first whistle?

A. No, I could not tell how far off they was.

Q. Could you tell what quarter on the bow they were?

A. I could tell. I could tell they was on the starboard bow. They might have been two or three points on our starboard bow, a point and a half or two points.

Q. When you heard the first whistle? A. Yes.

Q. You heard no whistle on the port bow?

A. No, I heard no whistle on the port bow at all.

Q. When you heard the "Selja's" second whistle did that seem to come from the same bearing that the first one did?

A. It seemed to me it did; it did not seem to me to change at all.

Q. That was about a point—

A. When we was getting closer to it—that ship was not; I did not say she was a point on our bow.

Q. What about the whistle? The whistle sounded a point on the bow?

A. Something like that, I could not tell you.

Q. That was the first whistle? A. Yes.

Q. And the second one sounded about the same place? A. Well, just about the same.

Q. Did you at any time see Point Reyes?

A. I seen it while we were lowering the boat. I was in the little boat belonging to that ship. I was overboard; I saw the land then.

(Testimony of Frederick Amor.)

Q. You saw the land?

A. Yes, when I was in the little boat, it [500—381] cleared up as clear as a bell, and we never had no fog since.

Q. Did you see the whistle blowing? A. Sir?

Q. Did you see the Point Reyes whistle blowing?

A. No, I did not see the whistle blowing.

Q. When you say you saw the land, you refer to the South End, or do you refer to the North End?

A. I saw the land. I could see it was Point Reyes, it was in between there and Duxbury Reef, at least Drake's Bay, there, because I know the land there well, I passed there so many times.

Q. You saw the land where the whistle is, that part?

A. Oh, yes, I did—well, I could tell by the land there.

Q. You saw that land but you could not see the whistle blowing?

A. No, I could not see the whistle blowing, I do not think they would be blowing the whistle anyhow, for after striking that ship it cleared up.

Q. But before it cleared up you did not see the land?

A. No, I did not see the land before it cleared up.

Q. And before it cleared up you did not see the whistle blowing? A. No; never heard it, either.

Q. Did you say you were in one of the boats that rescued some of the "Selja's" crew?

A. I was in our boat and the sea rolled up and capsized me out of it, sir, and I got in the water and

(Testimony of Frederick Amor.)

then that captain's wife came along there in a little boat; and we went and took his little children on and got them aboard of our ship. I got in the boat not knowing that was his lady in the boat; I got them in the boat and then I went sculling around in his little boat; I was going to see what was afloat around there, and the captain called me back, he said "Come back here with that boat," so I came back.

[501—382]

Q. Don't go so fast and talk so much about things that I do not ask you about. We have got to the point where you were in the water. A. Yes.

Q. How did you get out of the water?

A. I got in that captain's boat, sir.

Q. Who helped you into that boat?

A. The captain's wife came along there, and like a lady, took one of the oars from the boat and put it over and I got hold of it—that captain's wife.

Q. By that you mean Captain Lie's wife?

A. That captain's wife there.

Q. Captain's Lie's wife? A. Yes.

Q. Were you the only man in the water?

A. I was the only one of those.

Q. You say the swell knocked you into the water?

A. Well, the forward fall was kind of slack and the after one was not slack, and so it got turned up and I turned with it and I got turned out; we hung our boat up afterward.

Q. Are you a drinking man?

A. Well, I take a glass once in a while, sir.

(Testimony of Frederick Amor.)

Redirect Examination.

Mr. DENMAN.—Q. When you got in that boat, who was in it?

A. When I got in, when I was in it?

Q. When you got in the boat in which the captain's wife was, who was in it?

A. There was a whole bunch of them in it; his wife and two little children and some Chinamen there. We took the little children on and put a line on them and got them up. The captain was not there at all then; he was aboard of his boat. Our boatswain went and picked him up afterwards; that was the boat I had. [502—383]

[Testimony of John Hanson, for Respondent.]

JOHN HANSON, called for the respondent, sworn.

Mr. DENMAN.—Q. How long have you been at sea, Mr. Hanson? A. Four and a half years.

Q. How old are you? A. Twenty-two.

Q. Were you on the "Beaver" at the time she collided with the "Selja"? A. Yes, sir.

Q. What position did you have on her at that time? A. Quartermaster.

Q. Were you on the bridge at the time of the collision? A. I was at the wheel.

Q. How long had you been at the wheel?

A. I had been at the wheel since 2 o'clock.

Q. Since 2 o'clock? A. Yes, sir.

Q. What was the condition of the weather on that day?

A. Well, it was heavy fog and heavy swell.

(Testimony of John Hanson.)

Q. What direction was the swell coming from?

A. Well, it was a northwesterly swell, a westerly swell.

Q. Was it westerly or northwesterly?

A. It was more northwesterly.

Q. What do you mean by northwesterly? How was your vessel heading with respect to the swell?

A. Well, the swell was a little on our starboard bow.

Q. A little on your starboard bow? A. Yes.

Q. What course were you steering?

A. I was steering north 86 west.

Q. You were steering north 86 west?

A. Yes, sir.

Q. How long had you been on that course?

A. Well, ever since I came to the wheel, that was 2 o'clock. [503—384]

Q. From 2 o'clock? A. Yes, sir.

Q. Did you hear a whistle from the "Selja"?

A. Yes, sir.

Q. About what time? A. Now, I could not say.

Q. About how long—do you remember the time?

A. No, I could not remember the time at all.

Q. Whereabouts was that whistle?

A. Well, it was on the bow about a point, I should judge.

Q. On the starboard bow. A. Yes, sir.

Q. What, if anything, happened then on your ship? A. What happened on our ship?

Q. Yes. A. What happened, do you mean,—

Q. When you heard the first whistle from the

(Testimony of John Hanson.)

“Selja” did anything happen on your ship?

A. Well, now, I do not exactly understand.

Q. Did you get any orders of any kind?

A. Well, not at the first whistle.

Q. What happened next?

A. Well, I got an order to starboard.

Q. You got an order to starboard?

A. To starboard half a point.

Q. Did you execute that order? A. Yes, sir.

Q. What happened then?

A. Well, she was on there for about a minute and I got an order to hard-a-port.

Q. To hard-a-port? A. Yes.

Q. How many whistles did you hear from the “Selja”?

A. I heard two whistles.

Q. Two. What were they, two whistles at the same time or two single whistles?

A. Two single whistles, about a minute between.

Q. What is that?

A. Two single whistles, about a minute between, I should judge.

Q. When, with reference to the second whistle, did you get your [504—385] order to go hard-a-port?

A. After the second whistle.

Q. What happened? Were there any other whistles from your vessel?

A. Yes; there was three whistles.

Q. When were the three whistles blown?

A. Well, just a little before I got the order hard-a-port, I should judge, he blowed the three whistles.

Q. Did you put the wheel hard over then?

(Testimony of John Hanson.)

A. Yes, sir.

Q. What happened then?

A. Well, what do you mean?

Q. What did you see next?

A. Well, then I put the window down in the wheelhouse, after I got the wheel over, and I seen the "Selja" myself.

Q. You saw the "Selja" where? Where was she lying just at that time?

A. She was laying a little on our starboard in the trough of the sea.

Q. She was lying on your starboard in the trough of the sea?

A. Yes; she was laying about right angles from us.

Q. How far away?

A. Well, I should judge about two ship lengths, about 700 feet, or so.

Q. Did you watch her until the collision?

A. Yes, sir.

Q. Where did the "Beaver" strike the "Selja"?

A. Just forward of the bridge, a little abaft of the forerigging.

Q. Foreward of the bridge a little abaft the fore-rigging. At what angle did you strike her?

A. Well, we struck the "Selja" at about right angles.

Q. At about right angles? A. Yes, sir.

Q. When was your watch up at the wheel?

A. My watch would have been up at 4 o'clock, two hours at the wheel.

(Testimony of John Hanson.)

Q. Did you remain on watch at the wheel after 4 o'clock? [505—386]

A. No, sir—well, I think it was a couple of minutes after 4 when I got relieved, after we had turned back.

Q. Let me go back to your testimony. You say the course you were steering just prior to your hearing the whistle of the "Selja" was north 86 west?

A. Yes, sir.

Q. What course had you steered prior to that time, Mr. Hanson?

A. Well, I had not steered any other. That was the course I was given when I relieved the man at the wheel at 2 o'clock.

Q. Are you sure of that?

A. What they were steering before 2 o'clock I could not say.

Q. Are you sure of that?

A. Well, I was not steering anything but 86; that is what I was steering.

Q. You are sure you relieved the man at the wheel sharp at 2 o'clock?

A. Yes, I am pretty sure—well, I guess it was about 2 minutes past, the time I came from aft and came on the bridge and came down again into the wheelhouse, a minute and a half or two minutes.

Q. What is the course that you usually steer when you first leave the North Channel, going from North Channel to Duxbury Reef?

A. I could not say as to that.

Q. You could not say as to that? A. No, sir.

(Testimony of John Hanson.)

Q. It is not the same course that you take going from Duxbury Reef past Point Reyes, is it?

A. No, sir.

Q. Do you know what time you passed Duxbury Reef on that day? A. I could not say, sir.

Q. Do you remember whether it was in your watch or not?

A. Well, it was along—no, I could not—well, it was in my watch but I could not say what time we passed there.

Q. It was in your watch?

A. Yes. I have got from 12 to 6; that [506—387] is what we call our watch.

Q. I mean while you were on the bridge.

A. No, sir.

Q. Do you remember whether or not you passed Duxbury while you were at the wheel?

A. No, sir.

Q. You don't remember that?

A. No, sir. I was steering the same course.

Cross-examination.

Mr. McCLANAHAN.—Q. Did you hear the Duxbury Buoy whistle? A. No, I never heard it.

Q. Did you see the whistle or the buoy?

A. No, sir.

Q. This north 86 west is magnetic, is it not?

A. I do not know as to that. I have got nothing to do with the deviation of the course. I simply take the course.

Q. You simply steer from the bridge compass?

A. We steer with the pilot-house compass.

(Testimony of John Hanson.)

Q. That was north 86 west?

A. Yes, north 86 west.

Q. This order to starboard, was it hard-a-starboard? A. No, sir.

Q. How much did you put it to starboard?

A. I put the wheel as far as it would swing half a point, and then I steadied her up.

Q. That is, you put the wheel to starboard so that she swung half a point to port and then you steadied it up? A. Yes, sir.

Q. Did the second whistle of the "Selja" come from the same bearing as the first whistle?

A. Well, practically, I think.

Q. Practically the same bearing? A. Yes, sir.

Q. You did not hear the Point Reyes whistle?

A. No, sir.

Q. You heard the "Selja's" three whistles, didn't you? A. Yes, sir.

Q. Was that before or after you saw the "Selja," that you heard those three whistles?

A. Well, after. [507—388]

Q. The starboarding, the porting, the seeing of the "Selja" was all right in together there, was it not?

A. Well, a space of a couple of minutes I should judge.

Q. Were you looking at the "Selja" at the time of the impact? A. Yes, sir.

Q. She was then in the trough of the sea?

A. In the trough of the sea, yes.

(Testimony of John Hanson.)

Q. About the same position she was when you first saw her?

A. Well, it was starting to head out a little bit.

Q. By that you mean her bow began to swing a little to starboard? A. Yes, sir.

Redirect Examination.

Mr. DENMAN.—Q. Mr. Hanson, is it not a fact that when you first took the wheel you were steering north 82 west on the course of Duxbury Reef and at 2:15 you changed your course to north 86 west and finally got on that course?

A. I never steered any north 82 west, sir; no, sir. When I relieved the man at the wheel I steered north 86 west, and no other.

(An adjournment was here taken until Thursday, July 6th, 1911.) [508—389]

Thursday, July 6th, 1911.

(An adjournment is here taken to a day hereafter to be agreed upon.) [509—389½]

Saturday, July 15th, 1911.

[Testimony of Robert S. Paul, for Claimant.]

ROBERT S. PAUL, called for the “Beaver,” claimant, sworn.

Mr. DENMAN.—Q. Mr. Paul, what is your occupation? A. Marine engineer.

Q. How long have you been a marine engineer?

A. Since 1878.

Q. You have served on all seas?

A. Yes, all parts of the world.

Q. And in private and in governmental service?

(Testimony of Robert S. Paul.)

A. Yes, sir.

Q. You were commissioned in the United States navy, were you?

A. I was in the transport service.

Q. How long have you been with the Pacific Mail Steamship Company?

A. Two years—two years and three or four months.

Q. Are you now with the San Francisco and Portland Steamship Company?

A. The San Francisco and Portland Steamship Company, yes.

Q. Were you on the "Beaver" at the time of the collision with the "Selja"? A. Yes, sir.

Q. What position did you then occupy?

A. Chief Engineer.

Q. Where were you at the time the vessel came out through the North Channel?

A. Oh, I was around the engine-room; I don't know just what part.

Q. Do you recollect what the condition of the weather was in the channel itself?

A. The weather, I think, was kind of clear going through the channel.

Q. How about the sea at that point?

A. Well, it was not very rough when we were going through the channel. [510—390]

Q. What would you say as to the sailing condition going through the channel for the purpose of making speed? A. Fair.

Q. About what speed would you be making, pre-

(Testimony of Robert S. Paul.)

suming that it was slack tide, about what speed do you think the "Beaver" was making coming through the North Channel? A. About 15.

Q. About 15 knots? A. Yes, sir.

Q. What was the condition of the weather after you left the North Channel, with regard to the condition of the sea?

A. It seemed to me to be getting rougher all the time, more sea on.

Q. How was it at the time of the collision, if you recollect? A. A pretty good sea was running.

Q. Would you say it was a pretty good sea or a swell? A. Well, a pretty heavy swell, I would say.

Q. At the time of the collision, would you say the sea was rougher at the time of the collision than at the time you left the North Channel?

A. Oh, it was rougher.

Q. From what direction was the sea coming?

A. It was coming from the west.

Q. Coming from the west?

A. Yes, so far as I remember, west or northwest.

Q. And was the vessel heading into the swells?

A. Yes, we were heading right up to the swell.

Q. What can you say as to the distance shown by the log as compared with the actual distance run, when the vessel is running into a head swell. Will the log overrun or underrun the vessel, where you are going into a head sea?

A. Well, I am not so very familiar with that log question, but I should say that I would suppose it would overrun. [511—391]

(Testimony of Robert S. Paul.)

Q. Did you see the "Selja" before the collision?

A. Just about a couple of seconds, I guess, before the collision.

Q. How was she lying at that time?

A. She was coming across our bow.

Q. How was she lying with reference to the sea itself?

A. She was lying, as far as I can recollect at that time, she was lying pretty much in the trough of the sea.

Q. What did you do when the collision occurred?

A. What did I do when the collision occurred?

Q. Yes. Where were you when the collision occurred—were you below or were you on deck?

A. I was right on deck when the collision occurred.

Q. Had you heard any of the whistles of the approaching vessels? A. Yes, I heard two whistles.

Q. You heard two whistles—from the "Selja"?

A. Yes, sir.

Q. Do you mean by that two signal whistles?

A. No, I heard one whistle and then a few minutes after I heard another whistle.

Q. Where were you at that time?

A. I was in my room.

Q. What happened after you heard the second whistle?

A. Full speed astern was ordered by telegraph in the engine-room, and I immediately went down there and saw that it was carried out.

Q. You went below, then?

A. Yes, sir, I went below.

(Testimony of Robert S. Paul.)

Q. What did you find?

A. I found everything was all right; I found the engine was going back full speed, and then I walked up on deck. [512—392]

Q. What happened when you got up on deck?

A. Do you mean coming up, as to whistles or anything?

A. Just tell what happened after you left the engine-room.

A. I came up, and as I was passing through my room I heard our ship blow three whistles and the other ship blew three whistles, and then I walked to the rail to look to see what was coming.

Q. How soon after that did you see the "Selja"?

A. Oh, I suppose it must have been just a few seconds, I could not say just how long.

Q. 30 seconds or a minute?

A. No, it would not be a minute, I don't think; well, it might have been at that, too.

Q. What would be the effect on the speed of your vessel steaming ahead in and dead on to a swell, such as you had on that day?

Mr. McCLANAHAN.—That is, if you know, Mr. Paul.

A. Please repeat that again.

Mr. DENMAN.—Q. Of course, I don't want you to say anything you don't know. What would be the effect on the speed of your vessel—what is the general effect on the speed of a vessel when sailing head-in to a swell such as you had that day, would it retard or accelerate the speed?

A. Oh, sure it would retard the speed of the ves-

(Testimony of Robert S. Paul.)

sel going into a head sea.

Q. What is the reason for that?

A. That would be the force of the wind against the ship, the resistance, and the force of the sea coming against the ship.

Q. Was there any wind on that day to amount to anything? A. Was there any wind?

Q. Yes.

A. Yes, there was considerable breeze, but it was not a gale of wind, as I would call it. [513—393]

Q. What would be the effect of the sea on the vessel—or the effect of the swell? Describe that.

A. You mean the ship going head-to?

Q. Yes.

A. With a sea such as we had that day some engines would race very heavy and it would retard them a great deal and you would have to either put on the governors or else you would have to stand by. In the case of our ship we raced just slightly.

Q. What do you mean by “racing”?

A. When an engine is racing is when the stern of the ship comes up and the propeller partly comes out of the water.

Q. Partly comes out of the water? A. Yes, sir.

Q. Suppose the propeller does not get completely out of the water, but just the upper portion of the blade is out, will that affect the power of the propeller?

A. Oh, yes, it will affect the speed of the ship to a certain extent.

Q. Was the vessel, as a matter of fact, exposing

(Testimony of Robert S. Paul.)

her propeller on that day? A. Yes, some.

Q. Did you have anything to do on that day with logging the ship? A. No.

Q. How much would you estimate the reducing effect on your speed that the swell on that day would occasion, how much would it amount to, do you think?

A. About 3 knots.

Q. Can you give that accurately?

A. Well, that is my estimation.

Q. Would you say it was $3\frac{1}{4}$ or $2\frac{3}{4}$, or could you give the accurate figure?

A. No, I could not give it accurately; that is what I would think, with the heavy sea we had that day.

Q. You are referring now to what time, when you left the [514—394] North Channel or after you got out in the rough water?

A. When we were well out in the heavy sea we were in that afternoon.

Q. About how many revolutions were you running when you had gotten out beyond the North Channel and were on your course northwest from that?

A. 77 turns we were making at 3 o'clock.

Q. Was there any reduction after that?

A. Yes, sir.

Q. How much? A. One turn.

Q. Had you any special orders from the captain to make 77 turns, or was that just the usual thing coming out of the harbor? A. That is just usual.

Q. What was the condition of the sea on the Potato Patch or the Four-fathom bank as you came out of the harbor that day? A. Pretty rough, bracing.

(Testimony of Robert S. Paul.)

Q. Do you know how many rows of breakers there were? A. No, sir.

Q. You didn't notice that? A. No.

Q. What is the maximum horse-power of your ship, Mr. Paul?

A. That is, the most I have gotten?

Q. Yes. A. About 4800.

Q. What is your estimate of the horse-power you developed when you were going astern at the time of the collision? A. Pretty near the maximum.

Q. You think so?

A. Yes. She was doing anywhere between 4,000 and 4,200.

Q. 4,000 to 4,200?

A. Yes, between that; that is, I should judge that. The engines were backing wide open.

Q. They were backing wide open, were they?

A. Yes, sir.

Q. How many turns does she make going full speed ahead at [515—395] your maximum?

A. 85 is the most I ever got. She has done more than that though on the trial trip.

Mr. DENMAN.—I think that is all.

Cross-examination.

Mr. McCLANAHAN.—Q. Chief, I see that in your direct examination you have made no distinction between the heavy sea and a swell; do you recognize that there is a distinction between a heavy sea and a swell?

A. Yes, certainly I understand that.

(Testimony of Robert S. Paul.)

Q. When you spoke of a heavy sea, did you mean a heavy sea?

A. Yes. I might have made a mistake in saying a heavy swell; I meant a heavy sea that day.

Q. You meant a heavy sea caused by wind?

A. Caused by wind.

Q. As distinguished from a swell which would not be caused by wind? A. Yes.

Q. On this day, you speak of a heavy sea, and you meant a sea caused by wind? A. Yes, sir.

Q. Have you got your log?

A. No, sir, I have not got the log.

Q. Where is it?

A. It went to the S. F. & P. Company.

Mr. McCLANAHAN.—(Addressing Mr. Dur-brow.) Will you produce it?

Mr. DENMAN.—Yes, but I have not got it here.

Mr. McCLANAHAN.—You furnished me with a copy. I don't see how I can go on with the examination of the witness without the log.

Mr. DENMAN.—There was no demand made to produce it here.

Mr. McCLANAHAN.—But it is quite appropriate that you should have it here. You furnished me with a copy of the log [516—396] as of the day of the collision. That is all I have. I would like to look over the whole log.

Mr. DENMAN.—Is there anything more than this that you want? Will you examine on this and then inspect the log afterwards?

(Testimony of Robert S. Paul.)

Mr. McCLANAHAN.—Can't you send for the log now?

Mr. DENMAN.—Yes, I suppose so.

Mr. McCLANAHAN.—I can proceed with my examination in the meantime.

Mr. DENMAN.—Q. You don't keep the log yourself, do you, Chief? Who keeps the log?

A. I write the log up myself in the log-book, copying from the slate of the engineer's watch.

Q. The engineer makes the original entry on the slate, does he? A. Yes.

Mr. DENMAN.—I have telephoned my office and my clerk is not there to bring it out, but I can send a messenger down and get it. It is possible that we could adjourn the whole meeting to our office.

Mr. McCLANAHAN.—I think we had better go on here now.

Mr. DENMAN.—It is just 11 o'clock now.

Mr. McCLANAHAN.—Can we go on this afternoon?

Mr. DENMAN.—If you think you will need the witness that long, yes.

Mr. McCLANAHAN.—We will see. You will admit that this copy of the log entries of November 22 is a correct copy?

Mr. DENMAN.—I think it is; that is my understanding.

Mr. McCLANAHAN.—Q. When you left the dock on November 22, where were you—in the engine-room?

A. Yes, sir.

(Testimony of Robert S. Paul.)

Q. How long did you remain in the engine-room?
[517—397]

A. Oh, I was up and down to the engine-room all the time coming down the bay, more or less.

Q. You have not any recollection of how long you remained there?

A. I would be down there 10 minutes; sometimes maybe longer and sometimes less.

Q. Please confine your answers to November 22. You cannot remember how long you remained in the engine-room after you went down upon leaving the dock? A. No, sir.

Q. Did you remain there while you were still in the harbor?

A. Still in the harbor in San Francisco?

Q. Yes. A. No, sir.

Q. Did you remain there until you reached Meiggs' Wharf?

A. Yes, I believe I was there until we reached Meiggs' Wharf, if I remember correctly.

Q. And between Meiggs' Wharf and the North Heads you came out of the engine-room you think?

A. No, I was down in the engine-room but I don't remember what time we passed the North Heads at all.

Q. I didn't ask you that, Chief; you say you think you were in the engine-room when you passed Meiggs' Wharf? A. Yes, sir.

Q. Were you in the engine-room when you passed the North Heads? A. I don't know.

Q. So it may be that you came out of the engine-

(Testimony of Robert S. Paul.)

room between the North Heads and Meiggs' Wharf?

A. Possibly.

Q. I understand, then, that you go to the engine-room and stay a few minutes and then come out?

A. Yes, whenever I feel like it.

Q. What is the purpose of going to the engine-room in that way?

A. Just to see how everything is going. Sometimes I am down there half an hour. [518—398]

Q. What do you mean by "seeing how everything is going"?

A. To see how the machinery is working, and taking a look around the boilers. I am down in the engine-room twenty times from here to Portland.

Q. And your room is up on the deck, is it?

A. Yes, but I can go into my room out of the engine-room. There is a door leading from the engine-room into my room, the top part of the engine-room.

Q. And you go down on ladders? A. Yes.

Q. There is a door leading from your room to these ladders that go to the engine-room?

A. Yes, sir.

Q. Your room is on the starboard side, is it?

A. On the starboard side, yes, on the corner of the house.

Q. It is entirely enclosed, is it not? It is not an open room? That is to say, you have a door and a window that open out on the deck?

A. Yes, a door that opens out on the deck and a door that opens into the engine-room.

(Testimony of Robert S. Paul.)

Q. Are you in the habit of noticing the weather conditions when they are normal?

A. Well, I generally take a look around when I am on deck.

Q. When they are normal?

A. Yes, or blowing, or anything of the kind.

Q. So that you can remember trips when you had a normal sea and when you had a swell; you can remember trips, can you? A. Oh, yes.

Q. You make it a point to take notice?

A. Well, I don't know that I make a special point of it but I generally know the condition of the weather from day to day. [519—399]

Q. When did you strike this heavy sea that you referred to in your testimony?

Mr. DENMAN.—Sea or swell?

Mr. McCLANAHAN.—He said "sea." We settled that point.

A. After we came out through the North Heads and up through the channel, as we were going along further north the sea was getting heavier all the time.

Q. And the wind was blowing more?

A. Well, I don't know so much about the wind because I was not a great deal out on deck.

Q. Don't you know that you cannot have a heavy sea without wind?

A. Oh, yes you can. Lots of heavy sea runs after a gale of wind dies out.

Q. The sea, however, is caused by wind?

A. Yes, so far as I know.

(Testimony of Robert S. Paul.)

Q. You think this sea was caused by wind then blowing?

A. No, wind that had been blowing. I don't think it was blowing so very heavy at this time, but it was what they call a good sea.

Q. The sea was capping, was it?

A. Yes, and they were good long caps at that.

Q. And you make a clear distinction now between a heavy sea and a swell; you know the difference?

A. Yes, sir, I know the difference.

Q. And this was a sea, a heavy sea?

A. This was what I would call a heavy sea, yes.

Q. With white caps? A. With white caps.

Q. And this sea commenced shortly after leaving the North Channel and continued up to the point of the collision?

A. If my memory serves me right, yes, that is just about it.

Q. You had a heavy sea then when you passed Duxbury? [520—400]

A. I don't know; I didn't see Duxbury; I don't know anything about Duxbury. I naturally supposed though that it was pretty rough when we passed there.

Q. Don't you know when you passed it?

A. No, I do not.

Q. But this sea continued, so far as you remember, up to the time of the collision? A. Yes, sir.

Q. You were given a full speed ahead bell after you made your maneuvers and started out the bay, were you not? A. Yes, sir.

(Testimony of Robert S. Paul.)

Q. Were you in the engine-room then?

A. Yes, I was in the engine-room.

Q. What are the maximum revolutions of the "Beaver"? What were they on her trial trip?

A. On her trial trip they were 86.

Q. What speed did she make then? A. 17.6.

Q. 17 points 6?

A. I think that is what it was, yes.

Q. I understand that you never put your engines at more than 77 when full speed is given?

Mr. DENMAN.—He didn't say that.

A. No, I didn't say that. On this occasion she was turning 77 turns at 3 o'clock. I asked the engineer just at that time what she was turning then in that sea and he said 77.

Mr. McCLANAHAN.—Q. You did not know, then, except from what the engineer told you?

A. I did not know except what he told me because his watch was not up. Of course, we were not turning so fast coming down the bay.

Q. You were in the engine-room when you cleared the dock and headed out? A. Yes, sir.

Q. What were the engines then?

A. I don't know.

Q. Why, not?

A. Because we don't take them. In starting out big engines like that ship has got, or any big ship, when we go full speed ahead you don't shove the engines full speed right [521—401] away, maybe it takes 20 minutes.

Q. But in 20 minutes you have full speed?

(Testimony of Robert S. Paul.)

A. Probably that is so. Sometimes you have to work them out a little. Generally by the time you get by Meiggs' Wharf, or down to Fort Point, or along that way you generally have her going full speed.

Q. So that between Meiggs' Wharf and the North Head you had her going full speed? A. Oh, yes.

Q. And you got that order by telegraph from the bridge, did you? A. Yes.

Q. You maintained that, you say, until 3 o'clock?

A. Yes.

Q. And then you say there was a reduction in the revolutions of the engine, according to the report of your engineer to you?

A. No, there were no reductions at 3 o'clock at all. She was not making 86 turns.

Q. You mean to say that at 3 o'clock you were making the same revolutions as you were between Meiggs' Wharf and the North Heads?

A. No, sir, I don't know just exactly what she was making between Meiggs' Wharf and the North Heads.

Q. She was making the maximum full speed ahead revolutions that you usually make on that trip?

Mr. DENMAN.—No, up to that point, he said.

Mr. McCLANAHAN.—Q. (Continuing.) Is not that the fact, Chief?

A. We were making just what we usually make going down there. I never counted what she was making going down there.

(Testimony of Robert S. Paul.)

Q. Don't you know she usually makes between 83 and 85?

A. Yes, but she don't make it right off the reel.

Q. Between Meiggs' Wharf?

A. She would begin to pick up as she went along. Sometimes in going over the bar there is [522—402] quite a swell on and she don't do it until you get to smoother water.

Q. I took your suggestion that it took about 20 minutes to do it.

A. That is, to get the engine opened up. I don't mean to say to get the engines going 80 turns. Probably the steam is not up to the allowance right away.

Q. How long would it take her to get her engines up to turn between 83 and 85, after you have once received full speed ahead orders from the bridge?

A. Well, I have never done that. I never pulled her right out at 83 turns. I never had orders to go 83 turns right away.

Q. You never get orders to go any number of turns, do you?

A. Oh, yes, as a general thing we do.

Q. Did you get any orders on this particular day, November 22d, to go at any particular turns?

A. At 3:10, yes.

Q. Well, before 3:10? A. Before that, no.

Q. When you don't get orders to go at any particular turns what do you make?

A. We generally make anywhere along from 75 to 78, up until I would get orders.

(Testimony of Robert S. Paul.)

Q. Can you make 15 knots at 75 turns of the engine? A. No.

Q. Can you make it at 78? A. Yes.

Q. 15 knots?

A. I guess we could in smooth water.

Q. What do you consider your full speed revolutions?

A. Full speed revolutions of the ship was what she made on the trial trip, 86.

Q. Aside from the trial trip, and under your management I mean.

A. 85 is the most I have ever made.

Q. Under your management in the engine-room, what do you consider full speed revolutions of the engine? [523—403]

Q. That is, to open her up wide open?

Q. I said "full speed," didn't I? A. Yes.

Q. Well, answer that question, if you can. I didn't say anything about wide open.

A. That is a peculiar kind of a question to answer.

Q. How is it peculiar? When you get an order from the bridge full speed ahead, don't you know what that means? A. Yes, I certainly do.

Q. What does it mean to you?

A. It means to me to go ahead at a good speed. It does not specify any number of revolutions.

Q. What are the revolutions you make under such an order, and without any specific order?

A. About 77.

Q. About 77 revolutions?

A. About 75 to 77 revolutions.

(Testimony of Robert S. Paul.)

Q. So that that is your full speed, is it not?

A. Unless it is changed by the captain of the ship.

Q. Unless it is changed by other orders 77 revolutions is your full speed? A. Yes, sir.

Q. And under those revolutions you can make 15 knots, under favorable conditions?

A. I think so.

Q. And you did on November 22d?

A. I don't know how fast we were going. Not in that sea she could not.

Q. Don't you *remember* you made between Red Buoy No. 2 and the North Head—don't you remember you made 15 knots?

A. I do not. I don't remember what she made between the buoys.

Q. What did you say in your direct examination about 15 knots? Didn't you say something about making 15 knots? A. I don't think so.

Q. Didn't you say she made 15 knots going through the North Channel?

A. No, I don't know anything about what she made between the buoys. [524—404]

Q. What did you say in your direct examination, if you remember it, about making 15 knots on that day?

A. Going through smooth water—isn't that the idea?

Q. I am not asking you for an idea, I am asking for your statement now of your testimony on direct examination relative to the ship making 15 knots on

(Testimony of Robert S. Paul.)

The 22d day of November; when was it she made 15 knots?

A. Well, she must have made it while she was going through the North Channel.

Q. Exactly, and that is what you said on your direct examination? A. Yes.

Q. So that she made 15 knots on 77 revolutions, did she not? A. Going through there.

Mr. DENMAN.—Q. 77?

A. I don't know that she was making 77 revolutions. I did not count them going through the North Channel.

Mr. McCLANAHAN.—Q. You knew she was making 77 revolutions at 3 o'clock, from what your engineer told you? A. Yes, sir.

Q. And there had been no change from the bridge, had there?

A. She probably was making 77 going through there.

Q. And therefore making 15 knots?

A. Yes, sir.

Q. After she had left the North Channel, I understand from your direct testimony that this heavy sea retarded her progress to the extent of 3 knots, in your opinion? A. In my opinion, yes, sir.

Q. That was before 3 o'clock, was it not?

A. Oh, no, that was up to that time.

Q. Well, I say before 3 o'clock she was making only 12 knots? A. Yes, sir. [525—405]

Q. Before 3 o'clock? A. Before 3 o'clock.

Q. And at 3 o'clock your estimate is that she was making about 12 knots? A. About 12 knots.

(Testimony of Robert S. Paul.)

Q. Do you know what knowledge Captain Kidston of the "Beaver" has of your understanding of what full speed means when he telegraphs from the bridge to the engine-room? Does he mean that ordinarily full speed, without any positive or direct orders to the contrary, when telegraphed from the bridge, means 77 revolutions about? Does he know that?

A. I never talked to him about it.

Q. You mean to say that the captain of the ship does not know what revolutions full speed means when he telegraphs down? A. He certainly does.

Q. You say he certainly does? A. Yes.

Q. Then you think that Captain Kidston must necessarily know that ordinarily full speed when telegraphed from the bridge means about 77 revolutions?

A. I should think so.

Q. Now, suppose he wanted you to open up?

A. Then he would send me a note or give a written order.

Q. He would give you a written order?

A. Yes, sir.

Q. And what speed would you go under the written order, would he name the number of revolutions?

A. Yes, sir.

Q. So he must know then that 77 revolutions are the ordinary number of revolutions you would make under an ordinary telegraphing from the bridge?

A. Yes, sir.

Q. And if he wants you to make 83, 84 or 85 revolutions he sends a written order to that effect to the engine-room? A. Yes, sir.

(Testimony of Robert S. Paul.)

Q. Has that ever been done? A. Yes, sir.

Q. When and under what conditions? [526—406]

A. On lots of occasions.

Q. What for?

A. Well, sometimes we would be a little behind and would want to get in. On this occasion he—

Q. (Intg.) On this occasion? A. Yes, sir.

Q. What occasion are you referring to—to November 22d? A. Yes, sir.

Q. He sent you a written order to increase the speed? A. No, to decrease it.

Q. I am speaking of increasing it. Did he ever send you a written order to increase the speed?

A. No, sir.

Q. How do you know that that would be his motive for doing it, if he wanted to do it?

A. He has always done it.

Q. You say he never has done it?

A. When he wanted to alter the speed of the engine.

Q. When he wanted to reduce the speed he would send you a written notice? A. Yes, sir.

Q. But I say to increase the speed, he never sent you a written notice, did he?

A. On any other voyage before that time?

Q. I am speaking of any time at all?

A. Oh, yes.

Q. You remember it, do you? A. Yes, sir.

Q. When was it?

A. I don't remember the different voyages. It was perhaps on coming out of a fog.

(Testimony of Robert S. Paul.)

Q. What was the occasion of his sending you a notice to increase the speed?

A. When the weather would clear up after we would be slowed down in the fog.

Q. Were you going at 77 revolutions this day because of the fog? A. No, not that I know of.

Q. On this other occasion when the captain has sent you a note to increase the revolutions from the ordinary full speed, had you been in a fog? [527—407] A. Sometimes.

Q. Going at 77 revolutions in the fog?

A. I don't remember just what we were going. I remember on one or two occasions the captain sent me a note to make 80 revolutions, after the weather cleared up.

Q. After the weather cleared up? A. Yes, sir.

Q. Is that the way the note read, after the weather cleared up?

A. No. He sent it at the time when the weather was clear.

Q. What did he want to make 80 revolutions for?

A. Well, you lose time when the ship is going slow.

Q. But we have not any slow ship here, at 77 revolutions. A. You are asking me about other trips.

Q. I am asking you about other trips than on this day. She is going 77 revolutions, full speed, and you say the captain has ordered you to increase the speed. I have asked you what was the occasion for increasing the speed.

Mr. DENMAN.—I object to the question upon the ground that he has not testified that he went at 77

(Testimony of Robert S. Paul.)

revolutions at all times on all the other voyages and there is no evidence at all when he increased the speed he increased it from 77 revolutions; he might have increased it from anything else.

Mr. McCLANAHAN.—Q. Can you answer my question, or do you want it read to you?

A. We have not always went at 77 revolutions.

Q. Then you have conveyed to me a wrong impression, for I understood from you clearly, Chief, that when you got a notice from the bridge by the telegraph to go at full speed, after leaving port, after clearing, after making your maneuvers and making for the entrance, and after you worked your engine up to full speed, they were going at 77 revolutions about—is [528—408] not that so? A. Yes, sir.

Q. On all occasions?

A. No, not on all occasions.

Q. How do you differentiate between some occasions when you go at 77 revolutions on telegraphic communication from the bridge and on other occasions on the same kind of telegraphic communication you go at a slower number of revolutions?

A. There are occasions when the ship is bound to San Pedro that we are allowed to make only 76 revolutions.

Q. So that when you leave here for San Pedro you are not allowed to make more than 76 revolutions at full speed? A. No, sir.

Q. Where do you get those orders?

A. I got them from the captain.

Q. Do you know where he gets them?

(Testimony of Robert S. Paul.)

A. I guess he gets them from the main office.

A. And that is for the purpose of not making too much speed between here and San Diego?

A. No, it is not.

Q. Well, what is the purpose?

Mr. DENMAN.—Q. Do you know the reason, Chief?

A. I don't know, but I have heard that it is on account of not having much freight in the ship—on account of the vibration.

Mr. McCLANAHAN.—Q. So the rule is not to make over 76? A. Yes, sir.

Q. But going north you make 77?

A. Sometimes we average 73 all the way up, and sometimes 75 or 77.

Q. I am not talking about what you average; I want to know if when you are going full speed, on telegraphic communication from the bridge, you make a change from 77 under any conditions.

[529—409]

A. No, I don't know that we make a change—well, we have made changes, yes.

Q. What are the circumstances under which you made changes?

A. The circumstances on a couple of occasions, as I remember it, was on account—I think twice we were in a strong head wind and we were a little behind and when the wind died down the captain gave me orders to make 80 revolutions.

Q. But aside from these unusual occurrences of storms, and so forth, 77 revolutions is the fixed rate

(Testimony of Robert S. Paul.)

at which you go on a full speed order from the bridge? A. That is about the average.

Q. And at those revolutions you can make 15 knots?

A. Yes, sir, I guess we can.

Q. You spoke about the log of the ship overrunning under certain circumstances, did you not, on your direct examination?

A. I said I was not very familiar with it but I guess that it was what was done.

Q. Well, you have the evidence in the record here that the log would overrun? A. Yes, sir.

Q. What do you know about the log's overrunning—very little, do you not? A. Very little.

Q. Very little; why do you say it would overrun?

A. Just because I heard the officers talking about it.

Q. You know nothing about it yourself?

A. Absolutely nothing.

Q. Did you mean, when you said that, that the log would show more or less than the actual speed of the ship? A. I think it shows more.

Q. More than the actual speed of the ship?

A. Yes.

Mr. DENMAN.—Speed or distance, do you mean?
[530—410]

Mr. McCLANAHAN.—Distance.

Q. And you meant, Chief, that it would show more in the actual distance run by the ship, where the weather is rough?

A. The log would show more—I didn't quite catch

(Testimony of Robert S. Paul.)

that. Please repeat it.

Mr. McCLANAHAN.—I will ask the stenographer to read the question.

(Question read by the Reporter.)

A. Well, I should judge it would. I am not familiar you know with the log question. All I know about the slip of the log is what I hear the different officers talk about.

Q. Well, did you understand that the log was defective?

A. No, I don't know that it was defective.

Q. But that it was simply influenced one way or the other by the condition of the sea?

A. Yes, that is it.

Q. But we are not to place any reliance on your testimony in regard to the log because you don't know anything about it? A. No.

Q. When you say that your revolutions at full speed are 77, you mean about 77, do you not?

A. About 77.

Q. You would find it very difficult to place your engine at 77 revolutions, would you not?

A. Well, it is not a very easy matter to prove. Maybe it is two or three-tenths either way, although I have seen it done.

Q. But it was simply a matter of chance, was it not, where it was done?

A. No, I have seen it done in smooth water.

Q. Where you can place your engines at an exact number of revolutions?

A. Yes, sir. I have seen engines do it watch in and watch out.

(Testimony of Robert S. Paul.)

Q. It is rather remarkable, is it not? [531—411]

A. Well, I don't know; you can set them way.

Q. What is that?

A. I say you can set them in smooth water.

Q. Set them at an exact number of revolutions?

A. Yes. I have seen it done many a time.

Q. Yes, I know it, and I say it is remarkable that you have seen it; you remember the occasions, do you?

A. Yes, sir. When I was assistant engineer of ships I have done it.

Q. And it has impressed your mind, has it not?

A. Yes.

Q. Ordinarily you cannot do it?

A. No, you cannot ordinarily.

Q. Chief, what is the reason, if you know it, for the sending to you of this written order on November 22d to reduce from 77 to 76?

A. I suppose the captain didn't want to go any faster than that.

Q. You have told me that the captain must know that the ordinary full speed as telegraphed from the bridge would be about 77? A. Yes.

Q. With that knowledge he sends to you, as I understand it, a written order to reduce to 76?

A. To make 76 revolutions.

Q. Well, that is a reduction, is it not?

A. Yes, a reduction of one.

Q. You don't know why he did that, or, do you know?

A. No. He just sent me down the word, sent me

(Testimony of Robert S. Paul.)

down the order.

Q. Do you know how much of a reduction that would amount to in an hour on your ship?

A. It would amount to 60 revolutions.

Q. How much would that be in an hour?

A. You mean in the speed of the ship?

Q. Yes. [532—412]

A. Oh, I don't know; I never figured that out.

Q. It would not be very material, would it?

A. It would not be a whole lot.

Q. Did you ever figure it out? A. No.

Q. You don't know why he wanted to reduce the speed from 77 to 76, do you?

A. Well, the weather was foggy.

Q. The weather was foggy; that was the reason, do you think, or do you know?

A. That is only what I think. I don't know. The captain did not consult me because he was on the bridge.

Q. He was on the bridge, when?

A. I suppose when he sent me down this order.

Q. You suppose so? A. Yes, sir.

Q. You don't know, do you? A. No.

Q. Where were you when the note came?

A. In my room.

Q. You don't know where it came from?

A. You mean what part of the ship it came from?

Q. Yes.

A. No, but I naturally supposed it came from the bridge.

Q. But you don't know anything about that?

(Testimony of Robert S. Paul.)

A. No.

Q. Who brought you the note?

A. The quartermaster.

Q. When you get these orders from the captain, especially in foggy weather, you execute them at once, do you not? A. Yes, sir.

Q. Why was not this executed at once?

A. Why wasn't what?

Q. This order reducing your revolutions from 77 to 76? A. It was ordered right away.

Q. You ordered it right away?

A. Right away, yes, sir. [533—413]

Q. And that was at 3:10, was it not?

A. At 3:10, yes, sir.

Q. And so far as you are concerned, if there was any lackness in the execution of that order, or the delivery of it, you had nothing to do with it?

A. Delivery of it to whom—the engineer on watch?

Mr. McCLANAHAN.—I will ask the Reporter to read the question to the witness.

(Question read by the Reporter.)

Mr. DENMAN.—The confusion in the mind of the witness is whether it is from the captain to him or from him to the engineer on watch.

Mr. McCLANAHAN.—I repeat my question: it is perfectly plain, is it not, Chief?

A. Yes. It went right direct from me to the engineer on watch.

Q. That is what I want to get. If there was any delay, you had nothing to do with it?

A. Not before that, no.

(Testimony of Robert S. Paul.)

Q. And it went from you to the engineer at 3:10?

A. Immediately.

Q. Well, that was at 3:10?

A. Yes, just as soon as I got it.

Q. When you delivered the order to the engineer, did you then go back to your room?

A. No, sir. I whistled down through the speaking-tube.

Q. Oh, I see; so you were not in the engine-room to see the execution of the order?

A. No, but I know it was done because I know by the sound of the engine when they alter the speed of her.

Q. Do you mean to say that you can tell the alteration of one turn of the engine?

A. When they pull the throttle in slightly you can hear the steam wire drawn through the throttle as [534—414] they execute the order.

Q. Now, just answer my question, please: Can you tell from your room when the engines on the "Beaver" are reduced from 77 to 76 turns?

A. No, I cannot, but what I meant by answering your question that way was that I can tell that the engineer is executing the order right away.

Q. You mean he is doing something with the engines? A. Yes, sir.

Q. But you don't know what he is doing?

A. I know he is reducing her in.

Q. How do you know he is reducing it?

A. Because that is the order he got and he is obeying it.

(Testimony of Robert S. Paul.)

Q. Then your knowledge is based on the assumption that he is carrying out the order? A. Yes, sir.

Q. And nothing else? A. That is it.

Q. Are you willing to swear on your oath that in this particular case when you whistled down to that engine-room to have the revolutions reduced to 76, that they were reduced to 76?

A. Well, he reduced them as near 76 as he possibly could in that short space of time.

Q. What short space of time are you referring to?

A. From 3:10 to 3:15 when the collision occurred.

Q. Then he would experiment with the engines, would he, before he could get 76?

A. He would probably slow her down more than 76. You cannot slow her right down on to 76 immediately. They generally slow her down a lot more than that.

Q. You told me awhile ago you could reduce one revolution immediately and that you have seen it done?

A. Oh, no, I told you that what I had seen done—you said about a ship making exactly 77 revolutions, and I said I had seen that done. [535—415]

Q. Well, that is practically the same thing, is it not?

A. That is not reducing from 77 to 76.

Q. Oh, that is a more difficult thing than to exactly strike a given number of revolutions? A. Yes, sir.

Q. That is more difficult, is it?

A. Yes, sir, to pull her right down one turn right away. The chances are they pulled her in probably

(Testimony of Robert S. Paul.)

two turns and then stood there and counted the revolutions.

Q. And then pushed her up?

A. Up or down again.

Q. So you have to experiment before you get on the 76.

A. You have to for a couple of minutes, yes; a couple of minutes or probably 3 or 4 minutes.

Q. Who is this engineer that you telephoned to or spoke to through the tube?

A. He was the Second Assistant Engineer.

Q. What is his name? A. Townsend.

Q. Is he to come and testify in this case, so far as you know? A. I don't know.

Q. What did you do with this written order you got from the captain? A. I got it.

Q. What did you do with it? A. I have it.

Q. Where is it?

A. I think I have it in my pocket.

Q. Let me see it. You keep all these orders, don't you, Chief?

A. Well, I generally keep them until the end of the voyage.

Q. And then turn them in to the company?

A. No.

Q. What do you do with them?

A. Tear them up.

Q. What do you keep them for?

A. Well, I thought I would keep this one.

Q. Well, you keep them all, do you not, until the end of the voyage? A. Yes. [536—416]

Q. What do you keep them for? A. Sir?

(Testimony of Robert S. Paul.)

Q. What do you keep them for?

A. I just keep them in the log-book as a reference.

Q. You have produced the order, have you?

A. Yes.

Mr. DENMAN.—I never have seen it, Mr. McClanahan; let me see it.

Mr. McCLANAHAN.—I offer it in evidence and ask that it be marked Libelant's Exhibit 19. I will read it into the record.

[Libelant's Exhibit No. 19.]

“Mr. Paul,

Chief Eng. S.S. ‘Beaver.’

Nov. 22-10.

Please slow to 76 turns per min.

And oblige,

WM. KIDSTON,
Commander.”

I see that in the lower left-hand corner of this order there has been written: “Received 3-10 P. M. R. S. P.” That is in your handwriting, is it not?

A. Yes, sir.

Q. I understand, Chief, that on this particular day you knew that your engines prior to this reduction were making 77 revolutions?

A. At 3 o'clock they were making 77.

Q. You knew that they were being turned at 77?

A. Yes. I whistled down to the engineer on watch and asked him what he was making, at 3 o'clock.

Q. And he said 77? A. 77.

Q. What did you want to know for?

A. I am always in the habit of doing that. Prob-

(Testimony of Robert S. Paul.)

ably 3 or 4 or 5 or 6 times a day I will whistle down and ask what revolutions [537—417] he is making.

Q. You had been in the engine-room before that, had you not? A. Yes, sir.

Q. Before 3 o'clock? A. Yes, sir.

Q. Could you not count the revolutions yourself?

A. I did not.

Q. Did you remain in your engine-room after this conversation with your engineer at 3 o'clock until about the time of the collision?

A. Yes, I was sitting down reading.

Q. Inside your room? A. Yes, sir.

Q. How far abaft the bridge is your room?

A. I don't know, but I guess probably somewhere in the neighborhood of 100 or 125 feet.

Q. What direction was the wind blowing that day?

A. The wind was blowing somewhere around from west, or west northwest, something like that.

Q. Do you know the velocity of the wind?

A. No, sir. I will take that answer back, too. I won't say exactly what point it was blowing from because it is not part of my business. I know the wind was what they call blowing on shore, blowing on the beach that day,—west or west northwest, something like that.

Q. You say it was not part of your business, but I understood you to say in the beginning of your examination that you did make it part of your business to observe weather conditions.

A. I observe the weather—the condition of the

(Testimony of Robert S. Paul.)

weather, but not as to the points the wind blows from; I mean a rough sea, or things of that kind.

A. Oh, yes, I understand you. What was the velocity of the wind? A. I could not tell you. [538—418]

Q. Can't you give us some idea?

A. No, I have not any idea about it at all.

Q. Do you know anything about the Buford Scale?

A. No, I do not.

Q. Would you call it a gale of wind?

A. No, I would not call it a gale.

Q. How would you designate it?

A. Well, I don't remember now just exactly how hard it was blowing when we got out there.

Q. It was not a hurricane?

A. Oh, no, it was not a hurricane. It might be probably a moderate gale.

Q. You did not leave your room between 3 o'clock and the time of the collision, did you? A. No, sir.

Q. I understand you to say that you were reading when you heard the first whistle of the "Selja"?

A. Yes, sir.

Q. What were you reading?

A. A newspaper.

Q. Where did this whistle sound from?

A. It sounded off our starboard side.

Q. Did you stop reading when you first heard the whistle? A. Yes, I did.

Q. Why?

A. Well, I thought I would just listen around and see what was doing. I thought I would hear the

(Testimony of Robert S. Paul.)

whistle again pretty soon.

Q. Did the character of the whistle make you stop reading—was it loud?

A. Just an ordinary whistle.

Q. Just an ordinary steamer's whistle?

A. Yes, sir.

Q. Close by? A. Well, I thought it was.

Q. You didn't leave your room at that time?

A. No, sir.

Q. When you heard the second whistle, that was about a minute after?

A. I suppose it was, probably something like that.

[539—419]

Q. The regular fog-whistle of a steamer?

A. Yes, sir.

Q. Your whistle was blowing right along?

A. Yes, sir.

Q. When you heard the second whistle, I understand you did get up? A. You bet I did.

Q. Why do you say "You bet I did"?

A. Because it was getting pretty close, I thought.

Q. You went to the side of the rail, did you not, from your room? A. No, sir, not then.

Q. I will be very sure of that because I have here before me, Mr. Paul, your evidence given before the Inspectors, and I want to see if we cannot make the two statements coincide. You say you did not leave your room to go to the rail after hearing the second whistle?

A. No, I went in the engine-room. They tele-

(Testimony of Robert S. Paul.)

graphed full speed astern and I went down in the engine-room.

Q. After hearing the second whistle?

A. Yes, sir.

Q. You went down the ladder into the engine-room? A. Yes, sir.

Q. As you stepped from your room on to the ladder in the engine-room did you not see then that they had the lever up for full speed astern?

A. No, I had to be down on the second grating to see that. When I got on the second platform the engines were going astern.

Q. But when you stepped from your room on to the ladder you heard the signal given from the bridge?

A. No, sir; I heard it in my room before I went down, and that is why I ran down in the engine-room.

Q. After you had gone down into the engine-room and had seen that the order full speed astern had been executed, then I understand you came up again and went out through your room on to the deck? [540—

420] A. Yes, that is right.

Q. Then you went out to the rail? A. Yes, sir.

Q. And then you saw the "Selja"?

A. Yes, sir; it was a few seconds afterwards.

Q. After you went to the rail? A. Yes, sir.

Q. There is a little difference, it seems to me, between your testimony now and the testimony you gave before the Inspectors; let us see if we can reconcile it.

A. If there is they didn't take it down right, be-

(Testimony of Robert S. Paul.)

cause that is the exact testimony I gave.

Q. See if you recognize this testimony:

“Q. You state you heard a couple of whistles from the other ship; what whistles did you hear?” You remember that question, do you? A. Yes, sir.

Q. Your answer was: “I heard one whistle; I was sitting in my room reading; I heard another whistle and thought that was pretty close, looked out of the door, but didn’t see anything.”

A. My door was open.

Q. That is correct, is it, looked out the door.

A. Yes, I could look out the door from my room.

Q. And then you said: “Just began to turn back and looked over the rail and seen the steamer coming out of the fog.”

A. No, I went right down in the engine-room.

Q. Then this testimony, the latter part of it which I have read, is not correct?

A. No, that is not right. There is something wrong in that.

Q. “Looked out of the door, but didn’t seen anything”—that is correct, is it?

A. Yes, because I was sitting in the room just like this and could look through the door. [541—421]

Q. This is the statement that you say is not correct: “Just began to turn back and looked over the rail and seen the steamer coming out of the fog.”

A. I had been down in the engine-room and came up.

Q. So you reconcile that by simply saying that in the interval you had been down in the engine-room

(Testimony of Robert S. Paul.)

and had come back? A. Yes, sir.

Q. Referring now again, Chief, to the revolutions, you have made the statement that this order to reduce to 76 turns reduced the speed of the ship; is that correct? A. Yes, sir, it would reduce her some.

Q. How much would it reduce her?

A. I cannot tell you.

Mr. DENMAN.—He testified it would not be very much.

Mr. McCLANAHAN.—Q. What is the best speed that that ship has ever made under your supervision?

A. Somewhere along between 15 and 15½ knots.

Q. Have you not made 16 knots with her?

A. No, never through the Passage, that I have any recollection of.

Q. Do you remember stating before the Inspectors that on November 22d, you slowed her down to 13 knots? A. That I slowed her to 13?

Q. Yes.

A. No, I do not. I recollect answering a question on the speed, what I thought she was going.

Q. Let me read to you some of your evidence and see if you can recognize it: "Q. The best your ship could do loaded? A. The best she has ever done is 16 knots; better than that on the trial trip.

Q. On this day? Slowed her to 13 knots; the engines were making 77, 78; I judge she was not going over 13 knots. [542—422]

Q. Your engines were full speed ahead? A. Not all the time.

(Testimony of Robert S. Paul.)

Q. When did you slow your engine down? A. 3:10."

That practically coincides with your evidence of today, does it not?

A. Yes, sir. When I say about 16 knots, I don't know that; I don't recollect that we ever made 16 knots between two ports average straight through. I suppose we have part of the way on the coast coming down. The captain can tell you more about that than I can.

Q. Referring now to the weather again after you left the North Channel, was it foggy?

A. It was clear when we came out the North Channel, if I remember correctly.

Q. When did it begin to get foggy?

A. I don't remember just when it did begin to get foggy; I can't remember that.

Q. You were in your room? A. Yes, sir.

Q. Do you remember whether it was foggy at 3 o'clock when you telegraphed down to the engineer about the speed he was making?

A. Yes, sir, it was.

Q. And it remained foggy from that time until the collision, did it not?

A. Well, it was getting thicker.

Q. What was that?

A. It was foggy and I thought on looking out through my door that it was getting thicker.

Q. And it remained thick until after the collision?

A. Yes, sir.

Q. Where were you after the collision?

(Testimony of Robert S. Paul.)

A. I was all over the ship.

Q. Didn't you go to the engine-room at all?

A. Yes, I certainly did. I was around with the Assistant Engineer seeing that she was not making any water, and so forth; and then I came up and went forward and got the carpenter [543—423] to sound the forward peak to see if she was making any water.

Q. Then what did you do?

A. Then I was around all the time until we got into the city, different parts of the ship and in the engine-room and saw to the bilges and the different things a man would do in a case of that kind.

Q. You were not in the engine-room continuously on the return trip?

A. No, not continuously, but I was down there quite frequently.

Q. You don't know what took place in the engine-room except from the entries on the slate which you copied in the log? A. That is the idea.

Q. Do you make any entries on your log of fractional parts of minutes as times when you receive orders relative to your engines? For instance, if you get an order at 12:55½, would you put down that half minute?

A. You mean to increase or to slow the engines?

Q. Yes, or to do anything? A. No.

Q. Why did you do it on this particular day?

A. Because those bells were rung that quick.

Q. I am referring now to an entry in the log while you were still in the harbor.

(Testimony of Robert S. Paul.)

A. Yes. In the bell-book the engineers always put that down whether it is half or a quarter or whatever it is. I thought you meant in the log-book. We don't keep that in the log-book. Those bells are kept in a regular bell-book. They are all 55½ or 54½, or whatever it is.

Q. And do you copy that into the log-book?

A. No, sir, there is a bell-book for that purpose.
[544—424]

Q. What is it that is produced here?

Mr. DENMAN.—That is the bell-book, the log of bells.

Mr. McCLANAHAN.—I asked for the engineer's log.

Q. This is the log of bells you produced?

A. Yes, sir.

Mr. McCLANAHAN.—I wish the engineer's log. This that I have here is a copy of the bell-book and not the engineer's log.

Mr. DENMAN.—Yes, a copy of the book I have just given you.

Mr. McCLANAHAN.—If I remember correctly, Mr. Denman, my letter to you in reference to this matter and the negotiations that led to my receiving this, asked for the engine-room log.

Mr. DENMAN.—I presumed that that was what you wanted.

Mr. McCLANAHAN.—Can we have the engine-room log? I suppose you have it.

Mr. DENMAN.—I don't know. I have another book there and I presume that may be it. You can

(Testimony of Robert S. Paul.)

have it this afternoon if you want it.

Mr. McCLANAHAN.—Yes.

Q. What is this engine-room bell-book kept for?

A. To keep account of all bells rung going in or out of port.

Q. Don't you also put those *those* bells in your log?

A. No, sir. These are company orders.

Q. These are company orders?

A. Yes, sir, this book comes from the company's office.

Q. Are they taken from the slate or are they original entries?

A. Original entries, taken right from the telegraph as it is rung.

Q. What is the order in reference to the engineer's log-book, what do you put in the log?

A. The revolutions, the oil, the fuel and such things as that, the steam carried, the revolution of the pumps,—the regular engineer's log-book. [545—425]

Q. You remember the log-book of the "Beaver," do you? A. Yes, sir.

Q. Did you use it on November 22d?

A. Yes, sir.

Q. How long had you been using that book?

A. Ever since the ship came out.

Q. The same log? A. Yes, sir.

Q. Are you using it now? A. No, sir.

Q. You have another log-book since the collision?

A. Yes, sir.

Q. Where has this log been—the old log?

(Testimony of Robert S. Paul.)

A. It went to the office.

Q. Is this log which you used on November 22d a log that is signed by you? A. Yes, sir.

Q. On each day?

A. Yes—no, it is not signed by me each day, it is signed at the end of the trip.

Q. What entries are you ordered to put in your engineer's log—daily entries of what?

A. Daily entries of the performance, of the work of the engines.

Q. Her revolutions? A. Yes, sir.

Q. And the steam you carry? A. The steam.

Q. And the amount of fuel you burn?

A. Yes, the amount of fuel we burn.

Q. Well, we will have a look at it this afternoon.

I don't suppose you are a practical seaman, are you?

A. No, sir.

Q. And yet you did say that this head sea would retard the speed of the "Beaver"? A. Yes, sir.

Q. You know that from common knowledge, do you not?

A. Yes, and from experience in going to sea.

Q. That is caused by the wind, is it not?

A. By the wind and the sea. [546—426]

Q. How does the sea cause it?

A. If there is a heavy sea the ship won't go through it as well as she will in calm smooth water.

Q. Don't you know that that is caused by the wind?

A. The sea is caused by the wind. I suppose you can trace it right back to the wind.

Q. Do you think the white caps you see at sea

(Testimony of Robert S. Paul.)

when there is a heavy wind blowing are travelling along? A. I should think they were.

Q. You don't know that, do you?

A. Well, I say I should think they were travelling along.

Q. That is the common understanding, is it not, that they are travelling? A. Yes, sir.

Q. Would the speed of the "Beaver" be retarded if there was simply a swell and no wind?

A. Oh, yes.

Q. And that would be because the swell retarded the ship? A. Yes, sir.

Q. Then your idea is that the swell moves along?

A. Yes, sir.

Q. If you put a block of wood on the top of the crest of a swell—

A. (Intg.) It won't stay there.

Q. It won't stay there, it goes right on with the swell, in the absence of some wind? A. Yes.

Q. You will try that, Chief, and you will see that you are mistaken.

A. Won't it go ahead with the wind?

Q. You will find that it is necessary to have wind in order to take the block of wood along. But your opinion is that the heavy sea that day did retard the speed of the "Beaver"? A. Yes, sir.

Q. And your 3-knot suggestion is only a suggestion as to the amount of speed that was cut off?

[547—427]

A. That is what I thought.

Q. And you had no basis for that other than your guess?

(Testimony of Robert S. Paul.)

A. My experience as an engineer of the ship.

Q. Based upon this condition of the sea that day, and the wind? A. Yes, sir.

Q. You think this reduction of one revolution, bringing it down to 76, had any material effect on the speed of the "Beaver" up to the time of the collision?

A. Well, I suppose it must have slowed her down some.

Q. I understood you to say it might have taken 3 or 4 minutes in order to accomplish that.

A. Yes, it would take 2 or 3 minutes, but I mean it would slow her down some after they got her set to that.

Q. What were the revolutions of the "Beaver's" engines on the way back to this port after the collision?

A. I don't recollect just what revolutions she was making.

Q. If you got from the bridge the same kind of an order with reference to the speed, you would be making about the same revolutions, would you not?

A. Yes, we would, but there were times there when we were running slow at different times. She was going about 76 or 77 turns at full speed.

Q. You ran for about 9 minutes at half speed on your way back, did you not? A. Yes, sir.

Q. That was because of the fog, was it not?

A. I can't recollect now just what it was. It is all in the log-book, what we did.

Q. The answer to my question is not in the log-book.

(Testimony of Robert S. Paul.)

Mr. DENMAN.—But he says he can't recollect.

Mr. McCLANAHAN.—I say the answer to my question is not in the log-book. [548—428]

A. I can't recollect just about that.

Q. Can you think of anything else that would cause you to make half speed for 9 minutes in the early part of the trip back to San Francisco unless it was for the fog?

A. No, I cannot recollect of anything else.

Q. There can be no other reason? A. No.

Q. If the fog should clear up you would go at full speed? A. Yes, sir.

Q. There would be no reason why you would not do that? A. No.

Q. Were you in the engine-room when she was making that?

A. I don't know whether I was, or not. I was up and down from the engine-room several times while we were coming in.

Q. Your engine-room bell-signal book shows that from 3:58 until 4:07 she was making half speed on the way back; that is for 9 minutes? A. Yes, sir.

Q. Where were you then?

A. All over the ship. Parts of the time I was down in the engine-room and parts of the time I was on deck.

Q. You remember that speed on the way back?

A. Yes, I remember that.

Q. Don't you remember it was foggy then?

A. The fog would clear up at intervals for a few minutes, but I don't remember just how much fog

(Testimony of Robert S. Paul.)

there was because I was not paying much attention to the fog.

Q. How did the "Beaver" lie with reference to the "Selja" after she struck?

A. After she struck the "Selja"?

Q. Yes, when you finally backed out and made your maneuvers how did she lie?

A. I think she kind of swung around more broadside to the sea.

Q. I don't think you understand me, Chief; did not the "Beaver" [549—429] and the "Selja" have their bows pointed the same way after the collision? Just picture the thing in your mind and see if that is not correct?

Mr. DENMAN.—How long after?

Mr. McCLANAHAN.—Until she sank?

A. Yes, they did both have their bows about the same way.

Q. And they both then would be practically in the trough of the sea during that period?

A. Yes, I remember that we kind of swung around a little from the trough of the sea.

Q. You did not anchor at all?

A. Not that I know of.

(A recess was here taken until 2 P. M.) [550—430]

AFTERNOON SESSION.

ROBERT S. PAUL cross-examination, resumed:

Mr. DENMAN.—Q. Mr. Paul, have you brought the engine-room log?

A. Yes, here it is (indicating).

(Testimony of Robert S. Paul.)

Mr. DENMAN.—(Addressing Mr. McClanahan.) Here is the log, Mr. McClanahan (handing).

Mr. McCLANAHAN.—Yes, thank you.

Mr. DENMAN.—Have you compared that copy, Mr. McClanahan?

Mr. McCLANAHAN.—Yes.

Mr. DENMAN.—And is it correct?

Mr. McCLANAHAN.—Yes, I think so. I introduce a copy of the engine-room bell-signals, for November 22d, furnished by the respondent to the libelant, it being a copy of the original entries in the engine-room bell-book. I ask that it be marked Libelant's Exhibit 20.

[**Libelant's Exhibit No. 20.**]

OFFICIAL RECORD ENGINE-ROOM BELL SIGNALS BETWEEN BRIDGE AND ENGINE-ROOM.

November 22, 1910. Voyage No. 12.

Dept. from S. F. for Portland.

Stand by	12:23 P. M.
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Ast slow	12:50 " "
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Stop 12:52	Ast full	12:53
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Stop 12:54	Ast slow	12:55
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Stop 12:55½	Ahd. full	12:56
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Sp 1:03	Ahd. slow	1:03
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Ahd. full 1:04

Meiggs' wharf 1:12

At Sea P. M.

Stop 3:15	Ast full	3:15
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Ast full 3:15	Ast full	3:15
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Stop 3:16	Ast full	3:16
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(Testimony of Robert S. Paul.)

Stop 3:16½	Ast slow	3:17
Stop 3:17½	Ast slow	3:18
Stop 3:18½	Ahd slow 3:26 Stp	3:27
Ahd slow 3:57	Ahd half	3:58
And full 4:07	[551—431]	

K. TOWNSEND,
2nd Asst. Engineer.

A. D. BOYER,
1st Eng.

ROBT. S. PAUL,
Chf. Engineer.

Q. Chief, I understand that this 77 revolutions full speed rule was one established by the captain, so far as you know—communicated to you by the captain? A. Yes, sir.

Q. Did you hear the “Beaver’s” three whistles at about the time the telegraph was rung full speed astern? A. Shortly after that.

Q. Was it before or after you had got into the engine-room? A. When I was coming up.

Q. So you had gone down into the engine-room and seen that the order full speed astern had been executed, and then when you were coming up you heard three whistles? A. Yes, sir.

Q. The three whistles could not have been blown then at the time the order to reverse was given?

A. No, they were not blown then. [552—431½]

Q. It was a matter of a second or two afterwards?

A. A second or two afterwards, and then that notified us that the engines were going astern.

Q. Mr. Paul, have you ever furnished to the San

(Testimony of Robert S. Paul.)

Francisco and Portland Steamship Company, or any of its officers, any information in regard to this collision?

A. No more than what is in that book, no more than we have talked it over.

Q. What book do you refer to?

A. The log-book. I have talked to the captain and with Mr. Denman about it. I have furnished nothing in writing.

Q. Have you talked with any of the officers of the company about it? A. No, sir.

Q. Or anyone connected with the company?

A. No, sir.

Q. You have given nobody any information other than these two gentlemen as to your estimate of the speed of the "Beaver" or the revolutions of her engines, or her horse-power?

A. No, sir, not that I know of.

Q. You never talked with Mr. Schwerin about it?

A. No, sir.

Q. Or with Mr. Frye? A. No, sir.

Q. Then if Mr. Frye or Mr. Schwerin should say that the speed of the "Beaver" was 11 knots, you don't know where they get that information?

A. No, sir, they never spoke to me about it.

Q. And you never gave it to them? A. No, sir.

Q. You never gave it to Captain Kidston?

A. No, sir.

Q. Chief, you can figure the slip of a propeller, can you not? A. Yes, sir.

(Testimony of Robert S. Paul.)

Q. I wish you would figure for me the slip of the "Beaver's" propeller, assuming that she travelled two miles in 8 minutes and that her revolutions were 77. You know the pitch of the wheel [553—432] do you not? A. Yes, sir.

Q. $22\frac{1}{4}$, was it not? A. Yes, sir.

Q. Now, give us the slip of the propeller.

Mr. DENMAN.—I object to the question in that it does not state that the same sea conditions are to exist at the time the slip is to be estimated, as when she was travelling the 15 knots. Do you mean during that period?

Mr. McCLANAHAN.—Q. It does not make any difference, does it, Chief, what the sea conditions were in order to find the slip, if you know the distance travelled in a certain time?

A. How long do you want this for?

Q. Answer my question. It does not make any difference about the sea conditions, does it, if you know the distance travelled and the time taken to travel that distance? A. And the revolutions.

Q. Yes, and the revolutions. Now, answer the question. What was the slip of the "Beaver's" propeller if she was making 2 knots in 8 minutes, 77 revolutions, $22\frac{1}{4}$ feet pitch?

Mr. DENMAN.—I object to this upon the ground that there is no evidence to show that she was making 77 revolutions at the time she was travelling 2 miles in 8 minutes.

Mr. McCLANAHAN.—Q. Just give the slip, please. A. If she made 2 miles in 8 minutes?

(Testimony of Robert S. Paul.)

Q. Yes, if she made 2 miles in 8 minutes, 77 revolutions, $22\frac{1}{4}$ feet pitch? A. 2 miles in 8 minutes?

Q. 2 knots; twice times 6080 feet?

A. There is no slip; there is just two-tenths of a mile difference between that.

Q. Between what?

A. Between the engine and what you say she went, 2 miles in 8 minutes; the engine went 2 miles and two-tenths in 8 minutes. That is the speed of the engine. There [554—433] is no slip between 2 miles and 2 and two-tenths miles.

Q. Now, tell me definitely and accurately what you have figured on.

A. The engine travelled $2\frac{2}{10}$ miles.

Q. I want the data that you have come to your conclusion on.

Mr. DENMAN.—Q. How did you get it, Chief?

Mr. McCLANAHAN.—Q. Now, the question is, not how did you get it but what data have you figured on.

A. I have figured that the ship went 2 miles in 8 minutes. The engine was making 77 revolutions a minute—that is what you say?

Q. Yes. And what was the pitch?

A. $22\frac{1}{4}$ feet.

Q. Now you say that under that data there was practically no slip to the propeller?

A. No. She went—

Q. (Intg.) Answer the question.

A. Practically no slip.

Q. Practically no slip? A. No.

(Testimony of Robert S. Paul.)

Q. Now, Chief, are you sure of your figures?

A. Well, there they are.

Q. Go over them; you may have made a mistake.

A. No, that is all right.

Q. You have compared your figures?

A. Yes, sir.

Q. Don't put your figures away.

A. No, that was the one I made a mistake on; that is all.

Q. What would be the speed of the vessel under that data?

A. You say she made 2 miles in 8 minutes.

Q. What is the speed per hour?

A. That would be probably about $15\frac{1}{4}$.

Q. Is it not just 15 exactly? A. Yes.

Q. Now, will you take another proposition, Chief; I want to know what the slip would be if instead of travelling 2 knots in 8 minutes the "Beaver" travelled 2 knots in 10 minutes, on [555—434] 77 revolutions? A. That would be $2\frac{8}{10}$.

Q. $2\frac{8}{10}$ per cent slip?

A. No, that would be $2\frac{8}{10}$ that the engines traveled. That is too low for me to figure. There would not be any slip on that, either.

Q. How do you figure, Chief?

A. The ship was making 77 revolutions for 10 minutes; that is 770 revolutions.

Q. You multiply 77 by 10? A. Yes, sir.

Q. That equals 770 revolutions? A. Yes, sir.

Q. Then what do you do?

A. Multiply that by $22\frac{1}{4}$.

(Testimony of Robert S. Paul.)

Q. That is the pitch, is it? A. Yes, sir.

Q. What does that give you?

A. That gives 1,713,250; then you divide that by 6080.

Q. Just wait a minute. That gives you the speed of the engine? A. Yes, in feet.

Q. What do you make that? A. 1,713,250.

Q. And what is that? A. Feet.

Q. You mean 11,713 feet, don't you? How many feet do you figure is the result of multiplying 770 by $22\frac{1}{4}$; how many feet? A. 1,713,250.

Q. 1,713,250? A. Yes, sir.

Q. You don't mean that, do you, Chief?

A. Well, there it is.

Q. You mean to say that multiplying 770 by $22\frac{1}{4}$ gives 1,713,250? A. 22.25.

Mr. PAGE.—You have made a mistake in your decimals.

Mr. McCLANAHAN.—Q. If you point off the decimal it will give you 17,132 feet, will it not?

A. Yes, sir.

Q. That is the speed of your engine, in feet?

A. Yes, sir, in feet. [556—435]

Q. Now, how do you find the slip?

A. Then you divide that by 6080.

Q. What does that give you?

A. That will give you 2.8.

Q. As what?

A. As the speed of the engine in those 10 minutes.

Q. 2.8 miles is the speed of the engine in 10 minutes? A. Yes, sir.

(Testimony of Robert S. Paul.)

Q. And what was the actual speed made?

A. You said 2 miles.

Q. And eight-tenths of a mile would be accounted for by the slip? A. Yes, sir.

Q. Can't you tell what percentage that is?

A. Well, the way to figure that is, you subtract one from the other and then divide the greater into the less; that don't amount to nothing.

Q. Well, you just figure it out and see if it doesn't amount to something, Chief.

A. That is going too deep into fractions for me.

Q. That is too deep? A. Yes, sir.

Q. Can you figure it out if we extend the distance say to a knot in one hour; suppose she were making 15 miles an hour, what would be her slip?

A. If the ship were making 15 miles an hour and the engine was making 77 revolutions—

Q. Yes, what would be her slip?

A. 6.2 per cent.

Q. If she were traveling at the same rate of speed for 10 minutes there would be the same slip, would there not?

Mr. DENMAN.—The same percentage.

Mr. McCLANAHAN.—Yes.

A. Yes, there ought to be. [557—436]

Q. What would be the slip if she were traveling 12 knots per hour? A. The same revolutions?

Q. At the same revolutions? A. An hour.

Q. Yes. A. That would be 25.

Q. 25 per cent slip? A. Yes.

Q. Have you gone over your figures carefully?

(Testimony of Robert S. Paul.)

A. Yes. The engine traveled the same distance in an hour, in 77 revolutions, and there is a difference of 4 miles.

Mr. DENMAN.—4 miles?

Mr. McCLANAHAN.—Oh, no, not 4 miles.

A. You have 12 miles now and you had 15 miles before.

Q. Well, did you figure 3 or 4?

A. I figured 3; you said 12 knots the last time.

Q. I said 12 knots speed of the ship and 15 before. Your answer to the first was what?

A. 6.2 per cent.

Q. And the answer to the second is 25 per cent?

A. Yes.

Q. What speed was the "Beaver" making on the day of the collision? A. What speed?

Q. Yes; I mean what slip was her propeller making on the day of the collision?

Mr. DENMAN.—At what time?

Mr. McCLANAHAN.—Now, Mr. Denman, the witness will clear all that up if it is to be cleared up.

Mr. DENMAN.—It is a perfectly fair inquiry.

Mr. McCLANAHAN.—Q. (Continuing.) Now that you have your cue, Mr. Witness, go ahead and answer the question.

Mr. DENMAN.—And I say again, at what time?

Mr. McCLANAHAN.—He has your cue. Now, go ahead, Chief.

Mr. DENMAN.—I asked at what time.

Mr. McCLANAHAN.—I do not desire to change

(Testimony of Robert S. Paul.)

the form of my [558—437] question on cross-examination.

A. I don't know what time you mean.

Q. You want to know what time I refer to?

A. Yes, sir.

Q. Well, I will tell you the time—at 3 o'clock.

A. I don't know what speed she was making. I never asked the captain what speed she was making. I don't know what speed she was making at 3 o'clock.

Q. Would the captain know the speed?

A. If he didn't I would not.

Q. Please answer the question.

A. I suppose he ought to know.

Q. You say you didn't ask the captain?

A. No, I didn't ask him what speed she was making at 3 o'clock.

Q. How would he know what speed she was making? A. I suppose by the log.

Q. So you don't know the slip of the "Beaver" on the day in question at any time, do you?

A. No, I do not.

Q. Didn't you before the Inspectors testify as to the slip of the "Beaver's" propeller on the day in question?

A. They asked me what slip I thought she would have, and I said I didn't know, because I didn't know then what she traveled and don't know to-day.

Q. You make a distinction on what you knew then and what you know to-day?

A. I didn't know what distance she traveled.

(Testimony of Robert S. Paul.)

Q. Didn't you know on the day you testified before the Inspectors?

A. I think they asked me what slip she would have in a sea like that—wasn't that the question?

Q. I don't know what it was.

A. And I said I thought about 20 or 25 per cent.

Q. And you testified you didn't know anything about it?

A. Any more than what I thought. [559—438]

Q. What was your thought based upon?

A. On the roughness of the sea.

Q. On the roughness of the sea? A. Yes, sir.

Q. You thought your propeller must have been out of the water? A. Part of the time.

Q. You thought that; you didn't go to look?

A. No, I didn't go to the stern to look.

Q. And you didn't know that your engines were racing?

A. Oh, yes, I could tell sitting in my room if the engines were racing.

Q. And you could also tell the number of the revolutions of the engine sitting in your room, could you not?

A. No, sir, I could not tell without counting them.

Q. Well, couldn't you count them in your room?

A. I could, yes, sir.

Q. You did not do it, though? A. No.

Q. I believe you said that on the trial trip the "Beaver" made 86 revolutions and a speed of 17.6 knots.

A. I am not sure of that, whether it was 17 or 17

(Testimony of Robert S. Paul.)

and a little better; but it was 86 revolutions.

Q. Where did you get that information?

A. From the yard.

Q. The yard where she was built? A. Yes, sir.

Q. From whom? A. From the main office.

Q. Did you get it from some data?

A. Yes, sir, the indicator cards taken off the engines.

Q. Have you seen the blue prints that have been sent on here? A. Yes, sir.

Q. Did you get that data from those blue-prints?

A. Yes, sir.

Mr. McCLANAHAN.—I would like to have those blue-prints produced. [560—439]

Mr. DENMAN.—All right. I have them at my office. Do you want them this afternoon or will some other time do?

Mr. McCLANAHAN.—Well, produce them next Monday.

Q. Chief, do you get the same efficiency out of your engines backing as going full speed ahead?

A. Well, I have never drove a ship backward very far, but you are supposed to get almost the maximum horse-power out of the ship when you are backing her full speed astern as you are going ahead with a well proportioned wheel.

Q. Do you get the same efficiency out of your propeller backing as you would going ahead?

A. Yes, sir.

Q. Is that the best of your understanding?

A. Yes, sir, just as good.

(Testimony of Robert S. Paul.)

Q. Of course, the speed would not be the same?

A. Oh, no, the speed would not be the same.

Q. What would be the difference in the speed, what percentage of efficiency would you lose?

A. I don't know. I never have seen that tried.

Q. I understand you to say that you got 4800 horse-power out of your engines at one time when *you making* 85 revolutions?

A. 85 revolutions, yes, sir.

Q. When was that?

A. Going up the coast; I guess it was somewhere in the neighborhood of about a year ago.

Q. Any particular circumstances connected with the matter that you remember?

A. No, nothing very great.

Q. Well, what were they, great or small?

A. We were just running with another ship.

Q. What is that?

A. We were just running with another ship.

[561—440]

Q. Running along beside another ship?

A. A short distance off.

Q. Racing with her?

A. No, sir, ships never race.

Q. What were you doing?

A. We were just on our way to Portland, making time.

Q. Why do you say you were going along with another ship?

A. She was going along with us, I don't know that you would call it racing.

(Testimony of Robert S. Paul.)

Q. You were competing?

A. You might say that.

Q. You were competing in speed; is that it?

A. That is about the idea.

Q. Chief, do you in making these trips north or south ever by-pass any of your live steam into your intermediate or low pressures?

A. No, sir, only on the trial trip; never since the ship has been built.

Q. What is the length of your stroke?

A. 54 inches.

Q. What is the cut-off, the ordinary cut-off.

A. The ordinary cut-off along about 30 inches of the stroke, anywhere from 26 to 32 or 33.

Q. And what is the length did you say?

A. 54 inches.

Q. When did you ever cut it off to 33 or 34—as much as that? A. I have on several occasions.

Q. Would your log show it?

A. I guess it would.

Q. What was the cut-off on this occasion when you developed 4800 horse-power?

A. Pretty well open, I guess probably about 38 or 39.

Q. You were not by-passing any steam on that occasion? A. No, sir.

Q. That would not be allowed, would it?

A. We didn't have to.

Q. Do you know what horse-power was developed on the trial trip? A. Yes, sir. [562—441]

Q. What was it?

(Testimony of Robert S. Paul.)

A. You mean on 86 revolutions?

Q. Yes. A. 5,117.

Q. Where did you get that information?

A. Off the blue-prints.

Q. The indicated horse-power? A. Yes, sir.

Q. We asked that question, Chief, I think of the San Francisco & Portland Steamship Company and the answer was 4,448 indicated horse-power; do you know where they got that information?

A. I think they got that from me.

Q. Well, how do you reconcile that with your present answer?

A. That is what the ship was built for, 4400 or 4500.

Q. Now, they say that her speed on her trial trip—by “they” I mean the San Francisco & Portland Steamship Company, that her speed on the trial trip at Newport News in 1910, was 17.6 knots at 86 revolutions and 4,448 indicated horse-power?

A. That was about the average horse-power. On 86 revolutions—on the trial trip they took those about every 10 minutes, and that is what she was developing on those 10 minutes.

Q. Was she developing 86 revolutions when she made 17.6 knots?

A. I cannot say what she was developing when she made that but that is what we were told when we came in, that the ship went 17.6. I was too busy in the engine-room to know just what she was making.

Q. You have not checked that up with the blue-prints I am calling for, have you?

(Testimony of Robert S. Paul.)

A. The blue-print calls for lots of cards at different points of cut-off.

Q. The blue-print would call for a card showing the revolutions at 17.6 knots, would it not?

A. No, it just simply says on the blue-print, highest speed, 17.6. It don't say the average.

Q. Don't you know that the blue-print will show the speed made [563—442] at different revolutions? A. No, it does not.

Q. It does not show that? A. No.

Q. Are you sure about that? A. Yes, sir.

Q. We will find that out when we see the blue-print. A. Yes, sure.

Q. Did you ever have a slip of 25 per cent on the "Beaver"? A. Yes, sir.

Q. When you figure the slip, Chief, you take care of the sea conditions, do you not—that is, the slip takes care of them? A. Takes care of what?

Q. Of the sea conditions; the slip shows the loss of efficiency in the wheel due to sea conditions, does it not? A. Oh, yes.

Q. And all other conditions? A. Yes.

Q. You know the pitch of the wheel of the "Beaver" to be $22\frac{1}{4}$ feet, do you not?

A. Yes, 22 feet and 3 inches.

Mr. McCLANAHAN.—I think that is all.

Redirect Examination.

Mr. DENMAN.—Q. Mr. Paul, what did you do after the collision—did you have any duties in connection with the engine-room?

(Testimony of Robert S. Paul.)

A. Well, my duties were all over.

Q. All over? A. Yes, sir.

Q. Tell us what you did after the collision.

A. After the collision?

Q. After you struck, what did you do?

A. The first thing I did was, I went down into the engine-room, I went down and got the First Assistant and told him to get his men and take a look around to see there was nothing wrong in the engine-room, no pipes leaking and no other leaks. [564—443] Then I went and got the carpenter and saw the forward peak tank to see that the ship was not leaking. Of course, the tank was full of fresh water, and I wanted to see that it was not gaining any. Then from that time until the ship got to the dock I was around all the time, in the engine-room some of the time and some of the time on deck. Once in awhile I would go with the carpenter myself and have him sound to see if she was leaking any.

Q. Did you help any to get the passengers on board?

A. No, I had nothing to do with that.

Q. Did you take any particular notice at that time of what the "Selja" was doing,—what courses the "Selja" may have moved in? Did you take any particular observations as to that?

A. No, I did not take any particular observations of her.

Q. You say when you first saw the "Selja" she was lying in the trough of the sea; how was she pointed when she went down?

(Testimony of Robert S. Paul.)

A. If I remember rightly, she was pointed to the sea.

Q. Could you see the swell washing over her?

Mr. McCLANAHAN.—I object to your leading the witness.

Mr. DENMAN.—I will withdraw the question.

Q. When the "Beaver" struck the "Selja" at about what angle did she hit her?

A. I should judge from where I was that it was at about right angles.

Q. You said this morning that at sometime after that the vessels became parallel; do you recollect how long it took to get them around parallel?

A. No, I don't remember how long it took.

Q. Do you recollect or recall the movements of both the vessels before they arrived at a parallel position, do you recollect that, or did you notice that? [565—444]

A. Well, I noticed that our ship swung around a little, which she would naturally do by moving the engines.

Q. Was your vessel backed at all after the collision?

A. Backed after the collision—after we backed away from her?

Q. I mean just after the collision, did she back at all? A. Oh, yes, we backed at full speed.

Q. After you hit her? A. Yes, sir.

Q. What would be the tendency in regard to the bow of your vessel, which way would that swing,—to the starboard or to the port?

(Testimony of Robert S. Paul.)

A. I should think it would tend to swing her bow around with our's.

Q. Backing the engines would. What direction does the vessel swing in when she is backing?

A. I think that our ship swings to port.

Q. Are you sure of that?

A. I won't be sure, but I think so; I think that is the way she would.

Q. Is that in your department at all?

A. No, sir. I am very seldom on deck when the engines are backing.

Q. You say that when you came through the North Channel—let me ask you, first, what direction was whatever swell there was coming towards your vessel when you went through the North Channel?

Mr. McCLANAHAN.—I object to that upon the ground that the witness has not stated that there was a swell.

Mr. DENMAN.—Q. Was there any motion of the water at all coming through the North Channel at that time? A. Well, there was some motion.

Q. In what direction was it coming?

A. It seemed to me it was on the beam. [566—445]

Q. Would that have any effect on the speed with which the vessel would go—the amount of swell you had there?

A. Well, no, there was not so much sea in there that would affect her.

Q. You say the sea was breaking on the Potato Patch as you went out? A. Yes, sir.

(Testimony of Robert S. Paul.)

Q. White caps there as she was breaking?

A. Plenty of them.

Recross-examination.

Mr. McCLANAHAN.—Q. You have a right-hand propeller, have you not? A. Yes, sir.

Mr. DENMAN.—Now, Mr. McClanahan, I may, after I have had a chance to examine the mathematics of these calculations you have asked about—with which I confess unfamiliarity—I say I may want to recall Mr. Paul later on. I don't know how to cross-examine him now, because I am not familiar with the mathematics or the mechanical principles governing them. I may want to see you, Mr. Paul, when you come into town again.

The WITNESS.—All right.

[Testimony of R. B. Seike, for Claimant.]

R. B. SEIKE, called for the "Beaver." claimant, sworn.

Mr. DENMAN.—Q. Mr. Seike, how long have you been at sea? A. About 26 years.

Q. How long have you had officer's papers?

A. About 14 years.

Q. Were you an officer on the "Beaver" at the time of the collision between her and the "Selja"?

A. I was.

Q. What position did you occupy?

A. First Officer.

Q. Were you on watch at the time of the collision? A. No. [567—446]

Q. Where were you? A. I was in my room.

Q. What were you doing in your room?

(Testimony of R. B. Seike.)

A. Lying down.

Q. How long had you been lying down?

A. About half an hour.

Mr. McCLANAHAN.—Q. That is, before the collision? A. Yes, sir.

Mr. DENMAN.—Q. Were you on deck when the vessel came through the North Channel?

A. I was.

Q. What was the condition of the sea at that time?

A. In the channel?

Q. In the channel.

A. The swell was coming off the Four-fathom Bank.

Q. What was the condition of the swell?

A. In what way?

Q. As to the amount of it.

A. Well, there was quite a little swell there; the bank was breaking and the swell was coming across the channel.

Q. It was breaking first on the bank?

A. Yes, sir; and the swell was coming across the channel.

Q. How was it cutting the ship?

A. Right across the beam.

Q. Would it affect her speed any?

A. Not at all.

Q. What is the condition of the tide in the North Channel an hour before high water?

A. An hour before high water it is about slack.

Q. Did you notice the condition of the sea after you left the North Channel? A. Yes, sir.

(Testimony of R. B. Seike.)

Q. What was it?

A. There was quite a swell there.

Q. What can you say with reference to the condition of the swell after you left the North Channel, and about the time of the collision, as to its relative intensity.

A. Well, the swell increased as we went along.

Q. Is that a usual condition with reference to waters near [568—447] the North Channel, and as you get further out, on a westerly swell?

A. It is on a westerly swell, yes.

Q. What would you say as to the condition of the swell at about the time of the collision?

A. Well, there was quite a heavy swell at the time of the collision when I came on deck.

Q. Had you noticed it before that? A. Yes, sir.

Q. Did you see the vessels come together?

A. No.

Q. How soon afterwards did you notice them?

A. I was on deck about a minute afterwards.

Q. Where was the "Selja" lying at that time with reference to the swell?

A. The "Selja" was heading up almost to the swell at that time.

Q. Heading almost to the swell? A. Yes.

Q. What did you do then?

A. The first thing I done, I went down and looked over the bow to see how much damage was done to our own ship.

Q. Then what did you do?

A. I went down and sounded No. 1 bilge.

(Testimony of R. B. Seike.)

Q. Where did you go then?

A. I went down and looked at No. 1 tank.

Q. And then?

A. Then I examined the collision bulkhead.

Q. And then?

A. Then I came up on the bridge and reported.

Q. Did you notice land at any time after the collision and before you started home? A. Yes, sir.

Q. Where?

A. Land along there between the north and south of Pt. Reyes, between the north and the south point.

Q. About what direction was the land from you at that time?

A. Well, I judged at the time that we were south-east of Pt. Reyes. [569—448]

Q. Did you have any reason to make that observation? A. Yes, sir.

Q. What was it?

A. I wanted to get my location in case it got thick again and we had to get in our own boats.

Q. So you would know where to row to?

A. Yes, sir.

Q. Are you familiar with the waters on the coast line there? A. I am.

Q. What have you done to familiarize yourself with that neighborhood?

A. I was running a tow-boat for a good many years around there.

Q. In whose employ?

A. Spreckels and the Red Stacks.

Q. You say "running"; you mean by that that you

(Testimony of R. B. Seike.)

were— A. (Intg.) I was captain of one.

Q. Were you on the bridge when the vessel returned to port? A. I was.

Q. Do you recollect what course you sailed from the place of collision, the first course?

A. South 71 east.

Q. What is the deviation of your compass on that course? A. 4 degrees easterly.

Q. So that if you were going on your compass magnetic south 71 east, what would be your course throught the water?

Mr. McCLANAHAN.—Magnetic south 71 east?

Mr. DENMAN.—Q. (Continuing.) By the ship's compass, south 71 east?

A. That would make it south 67 east magnetic.

Mr. DENMAN.—Q. What were you sailing by at that time? A. By the light ship.

Q. Did you pick her up? A. We did.

Q. On which bow?

A. Just a little on the starboard bow; almost ahead.

Q. And did you come in from there to port?

A. Yes. [570—449]

Q. Did you keep on that course steadily until you picked up the light ship?

A. Yes, with the exception of slowing down or stopping, I forget which now, when we met the Revenue Cutter. We met a Revenue Cutter just before we got to the light ship.

Q. Did you change your course during that time?

A. No, no change in the course.

Q. You have given a general direction from Pt.

(Testimony of R. B. Seike.)

Reyes; how far would you estimate you were from the point? A. About 6 miles.

Q. Did you see the lighthouse itself, the Pt. Reyes Lighthouse?

A. I don't remember of seeing the lighthouse.

Q. Did you see the lower point?

A. I could see the land down at the water, yes.

Q. And could you see the south point?

A. Yes, down to the water.

Q. Did you recognize it? A. Yes, sir.

Cross-examination.

Mr. McCLANAHAN.—Q. Were you on the bridge continuously from the time you started on your return to port?

A. I went down at times to sound bilges.

Q. Who else was on the bridge with you?

A. The Third Mate, and I think the Second Mate was there for awhile, if I remember right.

Q. When did you leave the point of collision?

A. Well, I don't know the time exactly. It was after we got our boats up and got them secured again.

Q. Had you charge of the telegraph after leaving?

A. No.

Q. Who did? A. The officer on the bridge.

Q. Who was he?

A. I think it was the Third Mate.

Q. Did you give him any instructions as to the use of the telegraph? A. No. [571—450]

Q. Who did? A. The captain did, I guess.

Q. Was the captain there?

A. The captain was there.

(Testimony of R. B. Seike.)

Q. How long was the captain on the bridge?

A. I don't know; I presume he was there all the time.

Q. Do you know what speed the vessel was making on her return after first starting? Don't you remember she made about half speed for about 10 minutes?

A. Well, I could not say just whether it was 10 minutes after we started that I got on the bridge, or whether it was 15 or 20.

Q. I thought you said you were on the bridge from the time that you started back to port.

A. No. I was securing the boats at the time of the actual start, and when things were secured I went on the bridge.

Q. So you were not there when the actual start was made?

A. Not when the actual start was made.

Q. What was the condition of the weather when you actually started back, as to fog?

A. Well, I don't know just exactly how far you could see, but there was an overhead fog, and, if I remember right, it settled down shortly after that again, got thick again.

Q. Were you blowing your fog-whistles?

A. Yes, sir.

Q. From the time you started back?

A. Yes, sir.

Q. Until when?

A. I don't remember just how soon they did commence to blow the fog-whistles because I was not at the bridge at the point of starting.

(Testimony of R. B. Seike.)

Q. When you were off the bridge they were blowing the fog whistles, were they?

A. I don't remember that.

Q. What do you remember about the fog-whistles being blown?

A. I remember they were blowing when I was on the bridge and when it was foggy. [572—451]

Q. Do you remember the speed you were going when your fog-whistle was blowing, while you were on the bridge?

A. I could not say exactly at what speed we were going.

Q. How do you know there was a deviation of 4 degrees in your compass easterly on that course?

A. Well, we have taken Azimuths and made deviation tables.

Q. When? A. We do that right along.

Q. Did you ever do it on this particular course from that point?

Mr. DENMAN.—From what point?

Mr. McCLANAHAN.—Q. From the point of collision? A. No, not from the point of collision.

Q. Then how do you know there is a deviation of 4 degrees?

A. Because we have done it on that course.

Q. When? A. Previous to that.

Q. On south 71 east course?

A. Yes, sir; or thereabouts, within a degree or two.

Q. What do you mean, that the time you have taken the deviation—

A. (Intg.) I mean with reference to the course.

(Testimony of R. B. Seike.)

Q. Do you remember when you last took the deviation? A. No, I don't remember just when.

Q. Can you approximate it—was it within a year?

A. The ship was not running a year at that time.

Q. Was it within six months?

A. Yes, sir; I guess it was; it must have been.

Q. Do you remember the occasion of doing it?

A. No.

Q. Do you remember doing it at all?

A. Yes, sir.

Q. Did you do it?

A. Yes, sir; that is, I would not say I did it on that exact course, but I do it every opportunity I get.

[573—452]

Q. But I am talking about this particular course; did you ever do it on this particular course, within a degree or two? Of course, if you don't remember, you can say so.

A. Well, I don't remember just exactly.

Q. Do you remember anyone who has done it on this particular course? A. No.

Q. So your testimony is more of an estimate, is it not, than an actual statement of fact?

A. No, I did not say so.

Q. What do you mean by "did not say so"?

A. Well, I told you I didn't remember on that particular course.

Q. You also stated on your direct examination, that the deviation is 4 degrees easterly? A. Yes, sir.

Q. Now, I say that that is more of an estimate on your part than a statement of actual fact from per-

(Testimony of R. B. Seike.)

sonal knowledge? A. On that particular 71, yes.

Q. How near the light-ship did you make your turn to the entrance—within a couple of hundred feet?

A. Oh, I will say a quarter of a mile.

Q. A quarter of a mile?

A. About a quarter of a mile.

Q. You could see the light-ship? A. Yes, sir.

Q. It was foggy then? A. It was.

Q. You spoke of meeting a Revenue Cutter; was that near the light-ship? A. Yes, sir.

Q. You didn't slow down then, did you?

A. Yes. I believe we stopped then.

Q. You believe you stopped?

A. I am not quite certain of that.

Q. Why did you stop?

Mr. DENMAN.—Please enter in the record that counsel for [574—453] the “Selja here examines the log.

Mr. McCLANAHAN.—Mr. Denman, I object to your putting in things that happen outside of the record, things that suit you and leaving out things that do not suit you.

Mr. DENMAN.—Well, you can put those in.

Mr. McCLANAHAN.—When I pick up a book and examine it, and you think it is advantageous to you to have it put in the record that I examined it, you put it in.

Mr. DENMAN.—Well, it is just like your 20-minute remark that you made.

Mr. McCLANAHAN.—Q. Answer the question.

A. To speak to the Revenue Cutter.

(Testimony of R. B. Seike.)

Q. Why did you want to speak to the Revenue Cutter? A. I didn't want to speak to her.

Q. Who did?

A. I guess she wanted to speak to us.

Q. Did you hear the whistles of the Revenue Cutter before you saw her? A. Yes.

Q. How far was she when she came in sight?

A. About half a mile, I should judge.

Q. And when did you stop?

A. Just about that time.

Q. When you first saw her?

A. No, I think we stopped before we saw her.

Q. How many whistles did you hear?

A. I don't remember.

Q. Several? A. Several, yes.

Q. When you heard the first whistle, did you stop?

A. I don't remember. I don't know that I was on the bridge when I heard the first whistle. I was back and forth from the bridge.

Q. And you don't know whether you stopped your engine at that time? [575—454]

A. I don't know the exact minute the engines were stopped.

Q. Can you not tell me whether you know whether they were stopped when you heard the first whistle from the Revenue Cutter?

A. I don't know whether I was on the bridge at that time, or not.

Q. How did you know to stop? You say the Revenue Cutter wanted to speak to you; how did she manifest her desire to have you stop?

(Testimony of R. B. Seike.)

Mr. DENMAN.—Do you mean stop the engines or stop the ship?

Mr. McCLANAHAN.—I don't know what he means.

Q. Do you understand what I mean?

A. No, I do not.

Q. I understand you stopped because you understood the Revenue Cutter wanted to speak to you.

A. Yes, sir.

Q. And how did you find out she wanted to speak to you?

A. I think he hailed us with a megaphone.

Q. And that is what caused you to stop? A. No.

Q. What caused you to stop?

A. She crossed our bow.

Q. Is that what caused you to stop?

A. I suppose so. I was not on the bridge when I first heard her or saw her.

Q. What are we to understand from your testimony? Are you giving testimony that you know of or that you heard of?

A. I am giving you testimony that I know of when I was on the bridge, otherwise I cannot tell you.

Q. Then you don't know anything about the stopping for the "McCullough"—for the Revenue Cutter.

A. I do know that we stopped for the "McCullough."

Q. You were not on the bridge?

A. I was, at times.

Q. Were you on the bridge when they called you through the megaphone? [576—455]

(Testimony of R. B. Seike.)

A. Yes, I heard the captain calling through the megaphone.

Q. What did he say?

A. I don't know what he said. I think he asked if we wanted any assistance.

Q. Did you have any distress signals up?

A. No.

Q. Then how did he know you wanted any assistance? A. I don't know.

Q. Where was the first whistle you heard from the Revenue Cutter?

A. The first one I heard was about ahead.

Q. And yet when you came in sight of her she was crossing your bow?

A. She had already crossed our bow.

Q. And had gone on to the starboard?

A. Yes, sir.

Q. Did you have any communication with the Revenue Cutter after you stopped?

A. I believe the captain did.

Q. You don't know what it was, do you?

A. I don't remember what it was.

Q. What were you doing in your cabin, in your room? A. I was lying down.

Q. What doing? A. Lying down.

Q. Asleep? A. No, not asleep.

Q. Reading? A. No, trying to go to sleep.

Q. Trying to go to sleep? A. Yes, sir.

Q. And you were lying down trying to go to sleep for half an hour before the collision?

A. Yes, sir; that is, I was lying down about half

(Testimony of R. B. Seike.)

an hour before the collision.

Q. And you tried to go to sleep? A. Yes, sir.

Q. You don't go to sleep very easily, do you?

A. Not very easy.

Q. You don't know very much, then, about the swell while you [577—456] were lying down trying to go to sleep, do you? A. Yes, sir.

Q. How do you get your knowledge?

A. From the motion of the ship while I was lying down, and before I went into my room and after I got out.

Q. You said the swell striking the "Beaver" on the beam in the North Channel would not affect her speed? A. No.

Q. It would not affect her speed if she was headed into the swell, would it? A. Yes, sir.

Q. Without wind? A. Yes, sir.

Q. How would it affect the speed? What would be the means that would cause the "Beaver" to be affected in her speed?

A. The swell striking the bow and going through one swell down into the other one she would hit it pretty hard and that would raise the stern up; the bow going down would raise the stern close up to the surface of the water.

Q. So the effect would be on the propeller?

A. Not altogether, no.

Q. Would it be on the structure of the ship?

A. It would be on the bow.

Q. That is the structure of the ship, is it not?

A. Yes.

(Testimony of R. B. Seike.)

Q. Is that effect the same effect that a sea would have as distinguished from a swell? Would a sea affect the "Beaver's" speed without wind?

A. Yes, sir.

Q. In the same way? A. Yes, sir.

Mr. DENMAN.—A sea without wind?

Mr. McCLANAHAN.—Q. A sea without wind?

A. Yes, sir.

Q. It would affect the "Beaver's" speed?

A. Yes, sir.

Q. That is your best belief in the matter?

A. Yes, sir.

Q. Irrespective of the exposure of the propeller?

A. Yes, sir. [578—457]

Q. You don't know that from actual experiment, do you? A. I do.

Q. What have you experimented with in that respect?

A. Well, I have been in a good many ships on the coast bucking the seas.

Q. Did you ever take a block of wood and put it on the crest of a wave when there was no wind?

A. I have not put it on but I have seen wood floating in the ocean.

Q. Have you ever seen it move with the wave?

A. Yes, sir.

Q. With no wind? A. No wind.

Q. Did you ever put a block of wood on the crest of a swell when there was no wind and see it move on the crest of the swell?

A. I never actually put it there, but I have seen it there.

(Testimony of R. B. Seike.)

Q. And you have seen it move with the crest of the swell? A. Yes, sir.

Q. You did not see these ships come together, did you? A. No.

Q. You didn't hear any whistles?

A. No, not that I remember of until after I sat up in bed.

Q. What whistle did you hear then?

A. I heard our whistle blowing and I heard another whistle blowing.

Q. That was when?

A. Just immediately before the collision.

Q. How many whistles did you hear from the other ship? A. I don't remember that.

Q. You heard one? A. I don't remember that.

Q. I say you heard one?

A. I heard a whistle blowing. [579—458]

Q. And then you heard your own whistle blowing? A. Yes, sir.

Q. That was before the collision?

A. Before the collision.

Q. Was your whistle on your ship your regular fog-whistle? A. Yes, sir.

Q. And this other whistle was a regular fog-whistle, so far as you know?

A. Oh, no, I would not say that; it was just only a few seconds before the collision that I heard the other whistle.

Q. It was a regular fog-whistle, it was one whistle? A. I don't know what it was.

Q. You know what a fog-whistle is, don't you?

(Testimony of R. B. Seike.)

A. Yes.

Q. It is one whistle? A. Yes.

Q. One whistle from a steamer, and it is a long one? A. Yes, sir.

Q. That is the kind of a whistle you heard?

A. I don't know. I heard a whistle, that is all; I don't know what they were blowing it for.

Q. But you heard a whistle?

A. I heard a whistle blowing.

Q. Did you hear more than one from the other ship? A. I don't remember.

Q. Where is your room on the ship?

A. On the upper deck.

Q. How far aft of the bridge?

A. Next to the captain's room.

Q. How far aft of the bridge?

A. The captain's room is under the bridge and mine is next to it.

Q. What side of the ship is your room on?

A. On the starboard side. [580—459]

Redirect Examination.

Mr. DENMAN.—Q. How was the "Selja" pointing when she sank, with reference to the swell?

Mr. McCLANAHAN.—You asked that on your direct examination; that was one of your first questions.

Mr. DENMAN.—Q. How was she pointing at the time she sank, with reference to the swell?

A. She was almost head into the swell.

Q. What is the effect on the log when the vessel is heading into the swell with reference to the speed

(Testimony of R. B. Seike.)

shown by the log and the actual speed of the ship; does it over-run or does it under-run, or is it the same as the ship? A. It over-runs.

Q. And when the vessel is going with the swell how will the log act? A. It generally under-runs.

Q. Is that generally true in regard to all logs?

A. Yes, sir.

Q. About what would you expect the log to over-run the vessel in such a sea as you had prior to the time of the collision?

A. About from three-quarters of a mile to a mile an hour.

Q. That is a matter of estimate that will vary with different seas?

A. Oh, yes, it varies with different conditions of weather.

Q. How much would you estimate the swell would affect the "Beaver," assuming that in a smooth sea she would run 15 knots, in a sea such as it was about the time of the collision, I will say in a swell such as it was; about how much would you allow for the checking of the swell on the speed of the vessel?

A. In the neighborhood of about 3 miles an hour.

Q. That again is an estimate based on different seas? [581—460] A. On actual experience.

Q. And varying in different conditions?

A. Yes, sir.

Recross-examination.

Mr. McCLANAHAN.—Q. There was no wind that day, was there?

A. Not to amount to anything.

(Testimony of R. B. Seike.)

Q. A smooth long swell?

A. No, it was not a smooth long swell, it was quite a heavy swell, but there was not a great deal of wind.

Q. Well, the surface was smooth?

A. Do you mean the surface was glassy?

Q. I didn't say glassy; I said smooth.

A. Well, it was not smooth.

Q. Well, what was it?

A. There was a heavy swell.

Q. With reference to the surface what was it?

A. There was a little wind but there was not a great deal. I would say there was probably a breeze of from 4 to 5 miles an hour.

Q. If your log's variation or deviation from the speed of the ship is dependent upon the varying conditions of the sea it is not a reliable log, is it?

A. Yes.

Q. Can you tell from your log just what speed the vessel is making?

A. You can calculate pretty close.

Q. But it is not always reliable, is it, if it varies with every varying condition of sea?

A. Just as reliable as you can make it.

Q. I would like to know something about this log: do you know what kind of a log it is?

A. A Bliss log.

Q. A sort of propeller, is it not? It acts like a propeller? A. Yes.

Q. Records at the receiving end of the ship, does it? [582—461]

(Testimony of R. B. Seike.)

A. It records at the end, yes, sir.

Q. If there is no pressure on the propeller there is no record at the end of the ship, is there?

A. What do you mean by "pressure"?

Q. If there is no pressure on the log there is no record on the ship; that is, the contact and the pressure upon the water is what makes the log revolve, is it not?

A. The rotator, as we call it, going through the water.

Q. That is what makes it rotate? A. Yes, sir.

Q. And if you take it out of the water it does not rotate, does it? A. No, sir.

Q. And therefore it does not record?

A. No, sir.

Q. Why do you say that the log will over-run when the ship is heading into a head sea or a swell; what makes it over-run?

A. The force of the swell going against it.

Q. Not the cessation of the rotation caused by taking the log out of the water? A. No, sir.

Q. But every sea that is a strong sea striking the log makes it rotate faster than the speed of the ship?

A. Yes.

Q. Where did you get this information—from experience? A. From experience.

Q. With this particular log on the "Beaver"?

A. This one, yes, sir.

Q. No other log? A. Yes.

Q. All logs do that, do they?

A. All that I have met with, as a rule.

(Testimony of R. B. Seike.)

Q. So that no logs are absolutely reliable; you have to reckon with the sea conditions in order to tell the speed of the ship?

A. Yes, to a certain extent. [583—462]

Q. How do you figure that there was an increase as shown by the log of three-quarters of a knot per hour over the speed of the ship on this occasion?

A. I did not say that.

Q. What did you say?

A. I said from three-quarters of a mile to mile, about.

Q. How do you figure that?

A. According to the condition of the swell.

Q. How can you judge?

A. That is a matter of judgment.

Q. How can you judge of the force of the swell? What is your judgment worth? Is it worth anything? A. I think so.

Q. Tell us upon what it is based.

A. On my years of experience.

Q. You could from your years of experience look at a swell and tell its force against a log—approximately? A. Yes, approximately.

Q. Can other seamen do that, that you know of?

A. They can if they watch it pretty closely.

Q. Watch it pretty closely—watch what pretty closely, the swell or the log? A. Both.

Q. And it is your honest judgment that you can tell the force of the sea against the log approximately so as to be able to tell how much the log is over-running the speed of the ship?

(Testimony of R. B. Seike.)

A. After I become familiar with it.

Q. With the log? A. The log and the ship.

Q. What has the ship got to do with it?

A. She has a lot to do with it.

Q. Why?

A. Because ships are not all built alike.

Q. What has it to do with the force of the swell against the log so the log will over-run? I understand from you that it is the force of the swell against the log that makes it [584—463] rotate faster. What has the ship to do with that? You are mistaken there, are you not?

A. I don't think I understand that properly. I don't think I understood you properly if I am mistaken.

Q. I understood you to say you had to know the log as well as the ship in order to pass judgment on the matter as to how much the log exceeds the speed of the ship; now, I ask you what the ship has to do with it.

Mr. DENMAN.—He said he had to know about the speed of the ship.

A. Sometimes it depends on the speed of the ship. You may be dragging your log through the water three or four miles an hour or you may be dragging it twelve miles an hour.

Mr. McCLANAHAN.—Q. But you still have the force of the sea against the log, no matter how fast the ship is going, have you not? A. Yes, sir.

Q. And that force causes the log to rotate faster?

A. Yes.

(Testimony of R. B. Seike.)

Q. And that accounts for the change?

A. Yes, sir.

Q. How can the ship or the speed of the ship have anything to do with that?

A. You are going over more ground in a faster ship, you are going through more swells in a faster ship; if you stand still for an hour your log won't go through as many swells as if you are running 15 miles an hour.

Q. So the faster your ship goes the greater the difference between the speed of the log and the speed of the ship; is that your idea? A. Yes, sir.

Q. And the slower it goes the less the difference?

A. Yes, sir. [585—464]

Q. So that besides the condition of the sea you have the condition of the ship to deal with in determining the speed of the ship as shown by the log: Is that correct? A. Yes, sir.

Q. That makes it all the more uncertain as to whether the log is reliable, does it not, as a determining factor in the speed of the ship?

A. I would not say that it made it any more uncertain.

Further Redirect Examination.

Mr. DENMAN.—Q. Does the log, to a certain extent follow the movement of the waves on the surface? A. Yes, sir.

Q. Then in a rough sea it would have to follow further if following a contour than if following a straight line?

A. Yes, sir, it would have to go up and down on

(Testimony of R. B. Seike.)

the hollow of the sea.

Q. That would make an additional distance that the log travelled and that the ship did not?

A. Yes, sir.

Q. What does the phrase "the log coming home on the sea" mean?

A. That means it throws the log to the ship; a log in that condition will under-run.

Q. That is, on the following sea?

A. On the following sea.

Further Recross-examination.

Mr. McCLANAHAN.—Q. That is because the ship is making less speed than the momentum which forces the log along caused by the sea itself, is it not?

A. I don't understand you.

Q. This phrase that you have had put to you, "the log coming home on the sea," you say that that means that the ship is going faster than the log?

A. Yes, sir.

Q. What makes that?

A. The swell throws the log toward the ship.

[586—465]

Q. And does not affect the ship?

A. It affects the ship.

Q. Does it not affect it in the same way as it does the log? A. I don't understand you.

Q. Does not the swell affect the ship in the same way that it affects the log?

A. You mean to throw the ship ahead?

Q. Well, can't you answer that question without asking me one?

(Testimony of R. B. Seike.)

A. I don't really understand the question.

Q. You say that the log is affected by the swell throwing it faster than the ship is going?

Mr. DENMAN.—He said the sea.

Mr. McCLANAHAN.—Q. Well, the sea or the swell. A. Yes, sir.

Q. I ask you if the sea or the swell does not affect the ship in the same way?

A. Yes, sir, it ought to.

Q. How can there be any difference in the speed of the log under those circumstances? Why should the speed of the log be affected?

A. Well, the sea will throw the rotator further than it will throw the ship; the rotator is only a little light instrument; if there is any sea there it will throw it easier than it will throw the ship.

Q. You think the log in a head sea or a head swell travels over more ground than the ship?

A. I do.

Q. Is the log line always taut under those circumstances in a head sea with the ship travelling ahead?

A. Yes, sir, always taut; that is, it will hang down in a bight.

Q. It is taut, is it not? Do you know what I mean by "taut"?

A. I know what you mean by "taut," but when a thing is taut it has a strain on it.

Q. Would you call the condition of the log line under [587—466] normal conditions — what would you call it—wouldn't you call it taut?

A. Yes, sir.

(Testimony of R. B. Seike.)

Q. Is not the log line always taut when the ship is heading into a head sea?

A. The strain on the log line will vary some running into a head sea.

Q. Although the log itself is submerged?

A. Yes, sir.

Q. What makes that?

A. When the swell strikes the bow of a ship it retards her speed and the weight will cause the line to drop a little.

Q. As the speed of the ship drops? A. Yes.

Q. So that the log then and the ship are in harmony, are they not? A. Not always; no.

Q. You think the log would drop more than the ship. If the speed of the ship is affected by the swell or the head sea, is not the log affected the same way? A. Probably not at the same instant.

Q. Well, ultimately in the same way?

A. Yes, sir.

Q. Then why should there be any difference between the speed of the ship and the speed of the log?

A. Because if the swell strikes the rotator it makes it revolve more.

Q. Well, I guess, Mr. Seike, we cannot get any nearer together than that.

Further Redirect Examination.

Mr. DENMAN.—Q. Let me ask you: Have you ever experienced this, where the following sea would throw the log out of the water?

A. No, I never saw it thrown out of the water.

(Testimony of R. B. Seike.)

Q. You never have seen it thrown out of the water?

A. Not in a following sea, no. [588—467]

Q. You had a good many questions asked you as to the theoretical reasons why the log over-runs the ship in heading into a sea; now, setting aside the theory, what is your actual experience with regard to that, have you found that it does over-run or does not over-run?

A. It does over-run in head sea.

Q. And how long have you been First Officer on the "Beaver"?

A. Since she came out from the East, a little over a year now.

Q. Has that been your experience as First Officer during all that time and has that been your experience with the log during all that time?

A. Yes, sir.

Q. Have you observed the matter frequently?

A. Yes, sir.

Q. Made frequent observations of it?

A. Yes, sir.

Q. You base your navigation of the vessel on that, don't you? A. Yes, sir.

(Thereupon an adjournment was taken to a day hereafter to be agreed upon.) [589—468]

Tuesday, July 18th, 1911.

[Testimony of A. J. Frey, for Claimant (Recalled).]

A. J. FREY, recalled for the "Beaver":

Mr. DENMAN.—Q. You have been sworn before, I believe, Mr. Frey? A. Yes, sir.

(Testimony of **A. J. Frey.**)

Q. Do you know the Portland-Asiatic Steamship Company? A. Yes, sir.

Q. What, if any, relationship do you bear to that company?

A. I am the Assistant to the Vice-President and General Manager of that company.

Q. Have you offices in San Francisco?

A. Yes, sir.

Q. Were you present in the offices of the company on the day after the collision between the "Beaver" and the "Selja"? A. Yes, sir.

Q. That was about November 22, 1910?

A. I think that was the date, yes.

Mr. McCLANAHAN.—November 23?

Mr. DENMAN.—Yes, the 23d. The collision was about November 22.

Q. What, if any, relationship did the "Selja" have to the Portland-Asiatic Steamship Company?

A. She was under charter to the Portland-Asiatic Steamship Company.

Q. Did the captain of the "Selja" make any report to you upon this day? A. Yes, he did.

Q. What was the nature of that report?

A. Well, he simply called at the office between 10 and 11 in the morning, as I remember it, and had a general conversation regarding the accident of the day before. [590—469]

Q. Can you describe what he said? Do you recall it?

A. As I recollect now, the conversation started by his saying that he heard the whistle of the steamer

(Testimony of A. J. Frey.)

which he afterwards found was the "Beaver" some 15 minutes before the collision.

Q. Did you make any memorandum of this conversation at that time?

A. I dictated a memorandum just as soon as Captain Lie left the office.

Q. Have you got that memorandum?

A. Yes, sir.

Q. Will that be of any aid in refreshing your memory as to what occurred?

A. I think that might as well be put in the record, had it not? (Handing.)

Mr. McCLANAHAN.—Let me see it. (After reading.) Let me ask Mr. Frey a few questions in reference to this, it will save time perhaps.

Q. I understand that this is the embodiment of the conversation and it is the result of the talk between you and Captain Lie? A. That is correct.

Q. You asking him questions and he replying?

A. Yes.

Q. Where you wanted enlightenment on the different aspects of the situation you would ask him about that and he would reply? A. That is correct.

Q. In other words, you suggested at times what you wanted to know about?

A. No, I did not. Why should I suggest?

Q. You just said you did. A. No, I did not.

Mr. McCLANAHAN.—I will ask the Reporter to read the last few questions and answers.

(Record read by the Reporter.)

(Testimony of A. J. Frey.)

A. (Continuing.) I misunderstood you. [591—470]

Q. You suggested at times the matter that you wanted information about?

A. Well, I asked him the question. That is very plain English.

Q. You asked him the question or questions?

A. I asked him a question at one time.

Q. What was it? Oh, you mean one at a time?

A. One at a time.

Q. You did not have this taken down by a stenographer at the time of the conversation?

A. I did not, no.

Q. After he was gone this was the impression that the conversation left upon your mind?

A. That is correct.

Mr. McCLANAHAN.—I think we have no objection to having it understood that Mr. Frey will testify along the lines of the memorandum. That will save time.

The WITNESS.—I want to make this clear, that that was dictated to my stenographer just as soon as Captain Lie left the office, immediately after he left the office.

Mr. McCLANAHAN.—That appears now three times in your statement.

Mr. DENMAN.—That is offered in evidence.

The COMMISSIONER.—That will be marked Respondents' Exhibit "B."

(The document was here marked by the Commissioner Respondents' Exhibit "B" and is as follows:)

“MEMORANDUM OF CONVERSATION BETWEEN O. LIE, COMMANDER OF THE S. S. ‘SELJA’ AND A. J. FREY, ON NOVEMBER 23d, 1910, A. M.

Captain Lie stated that he heard the whistles of the ‘Beaver’ about fifteen minutes before the collision; that the ‘Selja,’ at that time was going ahead under about fifty revolutions (or approximately 5 to 6 knots) and that about [592—471] five minutes after hearing the ‘Beaver’s’ whistles the engines were stopped altogether and the ship went ahead under her own momentum.

Captain Lie states it was very thick and he could see only about two ship’s lengths, and that about two minutes elapsed between the time he saw the ‘Beaver’ and the time of the collision. That as soon as he saw the ‘Beaver’ he ordered his engines full speed astern, and the ‘Selja’ had just begun to back when the collision occurred. It is his impression that the ‘Beaver’ at the time of the collision was going ahead at a rate of about ten knots, but he feels assured that this was due to the ship’s momentum and not to any engine power, and it is his belief that the ‘Beaver’s’ engines had been stopped or reversed at that time.

He says the ‘Beaver’ struck the ‘Selja’ either in the extreme forward part of the main hold or at the bulkhead between the forehold and the main hold, and that the ‘Beaver’ forced her way into the ‘Selja’ about ten to twelve feet and that the ships hugged only *a* for a moment and the ‘Beaver’ then backed away from the ‘Selja.’ He states that there was a

(Testimony of A. J. Frey.)

very heavy swell at the time of the accident, and one of these swells picked up the 'Selja' immediately prior to the collision, and threw her broadside in the direction of the 'Beaver,' then passed on and picked up the 'Beaver,' and both the 'Selja' and the 'Beaver' were forced into the trough of the sea towards each other. It is Captain Lie's belief that the impact was materially accelerated because of this.

Captain Lie states that the 'Selja' cost £50,000 and was fully insured. [593—472]

He states that she had 3900 tons (measurement tons) for San Francisco; 800 measurement tons for Portland; of which 560 tons was sulphur, 400 tons chow, 1500 tons matting, 200 tons tea, one or two cases of silk goods, and the balance curios, crockery and miscellaneous material.

A. J. FREY."

Mr. DENMAN.—Q. Did you receive the reports of any other officers?

A. I had a conversation with the Chief Engineer, Eggen, December 1st, I think it was, of which I also have a memorandum here.

Mr. McCLANAHAN.—We object to any conversation between the witness and the chief officer—oh, he was of the "Selja," was he?

Mr. DENMAN.—Yes.

Mr. McCLANAHAN.—Oh, I beg your pardon.

The WITNESS.—That was on December 1st.

Mr. DENMAN.—I will hand this to you for inspection, Mr. McClanahan. I offer it in evidence.

Mr. McCLANAHAN.—I object to it going in evi-

(Testimony of A. J. Frey.)

dence, with the bottom memorandum upon it.

Mr. DENMAN.—Well, then, it is stipulated that the following may be read into the record as a memorandum of Mr. Frey's interview with Mr. Eggen when he reported to him in his office in San Francisco.

“Mr. Eggen stated to me to-day that prior to 3:00 P. M. on November 22nd, 1910, the ‘Selja’ had been running under forty revolutions. That at 3:00 P. M. this had been reduced to twenty revolutions, which would give the ship a speed of 3 to 3½ knots. He stated that the normal steam pressure [594—473] was 180 lbs., but that during the time they were under reduced speed it had varied from 160 to 170 pounds. He stated that the engines were stopped prior to the collision for fully five minutes before the full speed astern signal had been given, immediately prior to the collision. That, as the ship had been going under 20 revolutions prior to the engines being stopped, the ship should come to a dead stop in the water under these conditions within one or one and a half minutes, and that he was satisfied the ship had been dead in the water at least three minutes or slightly more prior to the time that the astern order was given.

In reply to the query as to how long it would take with the ship dead in the water to get the ship going astern under full speed astern order, Chief Engineer Eggen stated that it would take but a very few moments as the ship was very quick to respond.

A. J. FREY.”

(Testimony of A. J. Frey.)

Q. Mr. Eggen was the chief engineer of the "Selja," was he not? A. Yes, sir, that is correct.

Cross-examination.

Mr. McCLANAHAN.—Q. With reference to the Eggen memorandum, do you remember what time of day it was that Mr. Eggen was in your office, Mr. Frey? In the morning, was it not?

A. Was not December 1st the day upon which the testimony was taken in your office?

Q. That is my impression.

A. My recollection is that I told Mr. Eggen, when we left your office about one o'clock I think it was that day, to drop in to [595—474] my office before he left, and my recollection is that he was in the office that afternoon. He was there several times.

Q. You remember his testifying in my office, do you not? A. Yes.

Q. Was it before or after his testimony?

A. My recollection is, if December 1st is the date that the testimony was taken in your office, which is my recollection that it was, then he was in my office in the afternoon.

Q. And he had already testified then?

A. That is my recollection. That can be verified by the date the testimony was taken in your office. I would not be positive about that.

Q. But if it was on December 1st, your recollection is that after giving the testimony he had this interview with you? A. Yes, sir.

Q. What was the purpose of calling him to your office?

(Testimony of A. J. Frey.)

A. The Portland-Asiatic Steamship Company gives a voyage bonus to its officers and all the officers of the "Selja" came up to the office that day before leaving for Norway to get the bonuses.

Q. I thought you said you asked him to come to the office?

A. Well, I asked him to come to the office, yes.

Q. What was the purpose of your asking him?

A. Because I wanted to get certain information out of him.

Q. After he had testified?

A. Well, if that was the date of the testimony.

Q. We are now assuming that it was.

A. Assuming that it was, yes.

Q. That is my recollection and it is yours?

A. Yes, sir.

Q. He had then already testified within your hearing, had he not? [596—475]

A. Yes, I guess it was within my hearing.

Q. What did you want to get out of him, aside from his sworn testimony—a statement that differed from that testimony?

A. Oh, I don't know; I didn't suggest any answers to him, if that's what your question is.

Q. Don't you know that all the time and practically the facts covered by your memorandum of the conversation with Eggen were testified to by him in my office when you were present?

A. Well, I am not sure that I was present, Mr. McClanahan, when the chief engineer's testimony was taken. You must bear in mind that I did not come

(Testimony of A. J. Frey.)

in that day until I think after 11 o'clock. I would not be sure about that.

Q. Whose testimony did you hear then in my office?

A. I heard the testimony of—who was that little fellow, was he the third officer?

Q. Yes.

A. I heard his testimony. I remember that very plainly.

Q. Did you hear no other?

A. I could not say now. I could not repeat the testimony at this stage of the game.

Q. Do I understand, Mr. Frey, that after this engineer had given his sworn testimony in this case you deliberately invited him up to your office to secure further testimony—further evidence and facts that you are now producing in this trial?

A. Well, I will refuse to answer that question, Mr. McClanahan, until the day of the taking of the testimony in your office is developed.

Q. Well, we can develop that. Mr. Brown, may we have the testimony? Are you satisfied, Mr. Frey, that the testimony of the officers was taken on December 2, 1910? [597—476] A. Yes.

Q. So that this memorandum was made by you on December 1st, the day before the testimony was taken? A. The day prior.

Q. At that time, Mr. Frey, the answer of the claimant in this case had not been filed, had it?

A. That I cannot answer.

Q. Well, we can get the pleadings.

Mr. DENMAN.—That is the fact, the answer was

(Testimony of A. J. Frey.)

not filed until a long time afterwards.

Mr. McCLANAHAN.—Q. Refreshing your memory by an inspection of the answer filed in this case, Mr. Frey, answer my question, please. A. No.

Q. In the taking of the evidence of the officers of the "Selja," on December 2, 1910, Mr. Eggen being one of the officers I refer to, who were your attorneys?

A. Represented by Page, McCutchen & Knight, and William Denman. Are you speaking of the San Francisco-Portland or the Portland-Asiatic?

Q. I am speaking of the claimant in the suit brought by Olaf Lie vs. The "Beaver."

A. I don't understand your question.

Q. Well, what is the matter with the question?

Mr. DENMAN.—Q. Do you know who the claimant is?

A. I just answered I understood that was the Portland-Asiatic Steamship Company.

Mr. McCLANAHAN.—Q. You mean to say the Portland-Asiatic Steamship Company are the claimants of the "Beaver?"

A. The claimants of the "Beaver"?

Q. Yes.

A. That is not the way I understood the question.

[598—477]

Q. Who were the claimants?

A. The San Francisco Portland Steamship Company.

Q. Who were the attorneys at that hearing for the claimant?

(Testimony of A. J. Frey.)

A. Page, McCutchen & Knight and William Denman.

Q. They were employed immediately after the collision, were they not?

A. Shortly after the collision, not immediately.

Q. What would you say "shortly" meant—how many days? A. Well, within three days.

Q. About November 25th that would be; was it about that time?

A. November 25th was a holiday, I think; approximately that date; one day one way or the other.

Q. Did you secure this statement from Mr. Eggen at the suggestion of either of your counsel?

A. I did not.

Q. Was it on your own initiative?

A. Absolutely.

Q. And for the purposes of this suit?

A. I simply had a conversation with Mr. Eggen and asked him certain questions which brought forth those answers and I made a memorandum at the time so as to have the matter of record in case the statements should subsequently prove of any value.

Q. Well, you had in mind the use of his statements to you in this case, if necessary?

A. For possible use, yes.

Q. And, as a matter of fact, you did make use of the statement in the drawing of your answer, did you not? A. Yes—in the what, did you say?

Q. I say in the drawing of your answer.

Mr. DENMAN.—There is no testimony that he drew his answer.

(Testimony of A. J. Frey.)

Mr. McCLANAHAN.—Q. I am asking him the question. What [599—478] have you got to say to that, Mr. Frey?

A. Well, I cannot answer that.

Q. That is, you don't know? A. I don't know.

Q. You don't know whether the information furnished by Eggen, or any part of it, was used by you or your counsel in the drawing of the answer?

A. I don't know.

Q. You now have introduced this in evidence, and I presume that you think it is of some value to your case, to your defense; am I correct?

A. That is probably correct, yes, sir.

Q. What is there in this statement that you deem advantageous to your case?

A. In the Eggen statement do you mean?

Q. Yes.

A. Well, I think it brings out one point and that is, that the "Selja" seems to have been stopped dead in the water for some considerable period prior to the collision.

Q. And it brings out another point, does it not, which is an advantageous point for you, namely, that it was at 3 o'clock, according to Mr. Eggen's statement, that the revolutions were reduced to twenty; do you recognize that?

A. Yes, which is in direct—so far as the number of revolutions are concerned—in direct contradiction of the statement of the captain.

Q. Is it not also a direct contradiction of Mr. Eggen's own statement made on December 2d?

(Testimony of A. J. Frey.)

A. That I don't know.

Q. You don't remember that?

A. I don't remember what his testimony was about that.

Q. Do you think of any other statements contained in Mr. Eggen's memorandum that are advantageous to your case as you would see it?

A. No. I think those are about the only two [600—479] points in there, except the question I asked him, namely, how long it would take to bring the ship to a dead stop in the water after she had been running at that speed. Those are the only three material points in it.

Q. Well, you recognize as a practical man, that Mr. Eggen being an engineer did not know much about that, do you not? A. About what?

Q. How long the ship would take to stop.

A. He should know.

Q. Why—being an engineer?

A. I don't know who would know if he did not know. Who should know?

Q. Well, I don't want to answer your question, but how is the engineer going to know how long it will take his ship to stop?

A. Well, if he has any interest in his department at all he certainly would at some time or other satisfy himself how quickly he could stop his ship.

Q. Do you think most engineers know that?

A. They ought to know it.

Q. Don't you know that it is a very difficult matter

(Testimony of A. J. Frey.)

to know how long a ship will run under her own momentum?

A. Difficult in what way, to determine the exact moment of stoppage?

Q. Yes. A. Yes, sir.

Q. Very difficult, is it not?

A. It is difficult, yes.

Q. Do you think an engineer could determine that?

A. He could determine it approximately.

Q. How would he do it?

A. He could determine it approximately; he could form his opinion if he was on deck and the engine-room [601—480] was in charge of one of his assistants and the order is given to stop the engines, he could form some opinion; he might not get it down to a second, or down to a quarter of a minute, but he could form his opinion as to when the ship would come to a stop.

Q. That is, by looking over the side?

A. Yes, sir.

Q. And that would be the only way?

A. That would be the only way that I know of.

Q. That opinion would not be of any greater value in coming from the engineer than from you, would it, or from a layman or a landsman?

A. You mean if I were there?

Q. Yes. A. No, I don't suppose so.

Q. You could pass your judgment just as well as the Chief Engineer could? A. Certainly.

Q. Do you see in this statement and in the evidence given by Mr. Eggen any discrepancy?

(Testimony of A. J. Frey.)

A. Well, I have never seen the transcript of the evidence of any of those officers.

Q. Well, you heard the testimony, did you not?

A. I heard the testimony, yes, sir.

Q. Do you remember any discrepancy between the testimony of Eggen and the statement made?

A. Not at this moment, no.

Q. You cannot remember any? A. No.

Q. Don't you know that he said that the vessel was making 6 knots, 40 turns, at 3 o'clock?

A. No, I don't remember that.

Q. Don't you remember that he also testified that at 3:05 o'clock the engines were put slow, at a slow bell? A. I don't remember that definitely, no.

Q. Did you ever show this to your counsel, this memorandum which you have introduced in evidence? [602—481]

A. I don't know whether I showed that Eggen statement to Mr. Denman. It was never shown to Mr. Page, but it was spoken of to Mr. Denman some two or three weeks after the collision, as I recollect now.

Q. Look after Mr. Eggen had given his testimony?

A. That is my recollection.

Q. You did not speak to Mr. Denman about it before Mr. Eggen gave his testimony?

A. No, I do not think so.

Q. You knew that Mr. Eggen was going away, did you not?

A. I knew it the afternoon he was leaving.

Q. You knew when he gave his testimony, that he

(Testimony of A. J. Frey.)

was going away, did you not? A. No, I did not.

Q. When did you first learn he was going away?

A. I first learned it after the testimony was taken. I asked him the question.

Q. Did you not know that the testimony was taken in order to send these officers back to Norway?

A. I had no definite information about it. I asked Mr. Eggen when he was going away.

Q. When did you ask him that?

A. The afternoon of the day the testimony was taken. It was in the afternoon, yes.

Q. After he had given his testimony?

A. It must have been after he had given his testimony.

Q. And before that you did not know that these men were being examined because they were to be sent away to Norway?

A. Well, I understood in a general way that their statements were being taken with that point in view, but I did not know when they would leave. [603—482]

Q. And you knew we were anxious to get rid of them, did you not, to get them home?

A. Oh, yes, I understood that.

Q. And that their testimony was being taken for that purpose? A. Yes, I understood that.

Q. Don't you think it would have been fair to Mr. Eggen to have been confronted with any possible discrepancy between this statement and his evidence at the time his evidence was given in order that he

(Testimony of A. J. Frey.)

might deny it or affirm it or make explanations?

A. I don't know; I did not think that was necessary.

Q. You intended to save this until Mr. Eggen got away and then bring it into the case?

A. No, I had no intention at that time and no particular thing in view. I take a great many things that people come in the office there—our own employees who make certain statements, I take a memorandum of them.

Q. And you did not think it was necessary to turn this memorandum over to your counsel when they were cross-examining Mr. Eggen?

A. No, I did not.

Q. You had it at that time, did you not?

A. I must have had it, yes.

Q. You took it immediately after—

A. (Intg.) It was dictated immediately after. Whether it was actually received from the stenographer, I am not able to say.

Q. I believe you say you do not know whether the statement was used to furnish facts to your counsel in the drawing of the answer?

A. I cannot answer that; I don't know.

Q. You were familiar with the answer when it was drawn, were you not? A. No. [604—483]

Q. Why not? A. I had nothing to do with it.

Q. Why not? A. I did not sign any answer.

Q. I didn't say you did; were you familiar with it, whether you signed it or not? A. No.

Q. Did you see it?

(Testimony of A. J. Frey.)

A. I never saw it until this moment.

Q. There are certain facts set forth in the answer, are there not?

A. Why, I presume so. I have not had a chance to read it. I did not see it until a few moments ago.

Q. The answer is sworn to by Mr. Schwerin?

A. Yes, sir.

Q. Do you know where he got his information upon which the facts are sworn to?

A. I do not. I cannot answer for him.

Q. You were familiar and cognizant of the other answer filed in the freight suit, were you not?

A. If I could see the answer I could answer your question.

Q. I hand the witness the answer filed in the suit brought by the Portland & Asiatic Steamship Company vs. The San Francisco & Portland Steamship Company. A. Yes, I am familiar with it.

Q. Where did you get the facts that are contained in that answer?

A. These answers to the interrogatories?

Q. No, the answer itself.

A. That answer was drawn up by the attorneys and submitted to me; I had every reason to believe that those statements therein were correct; I read it carefully and I signed it.

Q. That answer was drawn by Mr. Page, was it not?

A. That I do not know. I presume so. The cover is marked "Page, McCutchen & Knight."

Q. You say you signed that answer but, as a mat-

(Testimony of A. J. Frey.)

ter of fact, you did not?

A. This one (indicating)? [605—484]

Q. Yes. A. Oh, yes.

Q. Look at it again and see whether you signed the answer.

A. Well, I guess I signed the interrogatories.

Q. That is, you verified the interrogatories?

A. Yes, sir.

Q. But the answer was unsigned?

A. It was signed by Page, McCutchen & Knight.

Q. The verification was waived? A. Yes, sir.

Q. You did not furnish Mr. Page, or the drawer of that answer, with any of the facts contained in the body of the answer, did you?

A. In the body of the answer, no.

Q. Do you know where they came from?

A. No, I do not.

Q. And you had nothing to do with furnishing the facts that are embodied in the answer filed in the original suit by the claimant, the San Francisco & Portland Steamship Company? A. No.

Q. You don't know where those facts came from?

A. No, I do not.

Q. Did you ever show Mr. Schwerin this statement of Eggen's? A. Have I shown it to him?

Q. Yes. A. No.

Q. So he did not get them from that statement?

A. No.

Q. Did you ever show him the statement of Captain Lie? A. No.

Q. Did you ever tell Mr. Schwerin the conversa-

(Testimony of A. J. Frey.)

tion you had with Captain Lie?

A. I think I told Mr. Schwerin right after he came back from the Orient, in December, 1910, when we were speaking over the case generally, that there was considerable difference of opinion on certain facts.

Q. What facts were those?

A. In regard to the speed of the [606—485] "Selja" and the length of time she had been stopped prior to the collision, and I might have mentioned incidentally that I had a statement from Captain Lie.

Q. But you did not tell him what the statement was? A. I did not go into it in detail; no.

Q. And you did not go into the details in the conversation, did you?

A. I do not think so. The conversation was very brief.

Q. So you do not know where the detailed facts in the original answer sworn to by Mr. Schwerin were obtained by Mr. Schwerin?

A. No, I cannot answer that.

Q. Or where he got knowledge of them?

A. No.

Q. Referring now to Captain Lie's memorandum, or rather, the memorandum of the conversation with Captain Lie, did you when you had your talk with Eggen refer to any discrepancy between his statement of the situation and Captain Lie's as it had been made? A. No, I did not.

Q. Did you know of any discrepancy at that time?

A. A discrepancy in regard to the number of

(Testimony of A. J. Frey.)

revolutions struck me right away.

Q. But you did not refer to it?

A. I did not refer to it, no.

Q. Any other discrepancy between the two statements?

A. That was the most glaring discrepancy. There was also a discrepancy in regard to speed.

Q. You did not refer to that? A. No.

Q. Did you have any particular purpose in mind when you refrained from referring to this discrepancy?

A. Well, I did not want to throw Eggen's answer in doubt at all by stating that I had a different statement from the Captain. [607—486]

Q. That is, it was your purpose to hold both men to their statements, so far as you could?

A. Yes, keep them entirely separate.

Q. Without being influenced one way or the other?

A. The only thing I did do when Eggen stated they were 20 revolutions, 3 to 3½ knots, I repeated the question and asked him if I understood his answer correctly. I questioned him to that extent.

Q. Do you remember what he testified as the speed she was making, in the examination on the following day? A. Do I remember what he testified to?

Q. Yes, do you remember his testimony?

A. No, I do not; I do not remember it at this moment.

Q. If there had been a discrepancy between his statement and the evidence given the next day, it was your purpose not to refer it to your counsel so that

(Testimony of A. J. Frey.)

they might cross-examine Eggen on it?

A. Well, as a matter of fact, to be perfectly frank about the thing, I certainly consider that the testimony given under oath would have more weight than a statement made in an informal way in my office. At that time I did not consider that these statements were any more than office memoranda.

Q. So that, then, you purposely refrained from suggesting to your counsel how his sworn evidence on direct examination might be repudiated or contradicted by statements which he had previously made to you?

A. I do not believe I had 50 words conversation that morning with Mr. Denman.

Q. When you had this conversation with Captain Lie, had you had [608—487] a prior conversation with Captain Kidston? A. No, I did not.

Q. When did you have your first conversation with Captain Kidston?

A. I don't think I saw Captain Kidston—my recollection is now that Captain Kidston did not come in until the following day. That is my recollection of it.

Q. What do you mean by the following day?

A. The collision was on November 21, was it not?

Q. On the 22d.

A. Well, then, it would be the 24th, the day following Captain Lie's call.

Q. Had you had no report from any officer of the "Beaver" as to the collision until the 24th of November?

(Testimony of A. J. Frey.)

A. I got a wireless report from Captain Kidston within 15 minutes after the collision took place.

Q. Where is that report?

A. That is in the office files.

Q. Can you produce it?

A. I can produce it, yes.

Q. Had you had no conversation with any of the officers? A. You mean of the ship?

Q. Yes. A. No.

Q. Until the 24th of November?

A. That is my recollection now. It is my recollection that Captain Kidston called the day following the day that Captain Lie called.

Q. Have you a present recollection of what this wireless was?

A. The substance of it was this: "Ran into steamer 'Selja' during a dense fog off Pt. Reyes. 'Selja' sank within 15 minutes, standing by to save officers and crew. Will return to port as soon as satisfied everybody is saved," or words to that effect. [609—488]

Q. Then I will not ask you to produce it. You knew Mr. Eggen to be a Norwegian, did you not?

A. Yes; that is I presumed he was a Norwegian. I knew he was not an American.

Q. Why did you know that? That is, on what was your presumption founded?

A. Well, he was on a Norwegian ship.

Q. And don't you know that he spoke very broken English?

(Testimony of A. J. Frey.)

A. No, I do not; I know that he spoke very good English.

Q. But couldn't you tell that he was a foreigner?

A. Oh, yes, I could tell he was a foreigner. I could not tell that he was a Norwegian but I could tell that he was a foreigner of some kind.

Q. And you could tell that Captain Lie was a foreigner, could you not? A. Yes.

Q. Where did you get your information, Mr. Frey, that enabled you to answer one of the interrogatories in the freight suit to the effect that the "Beaver" was making eleven knots per hour at 3 o'clock?

A. As I recollect it now, that was shown by the engineer's log, I presume. That is my recollection now.

Q. You have not any other recollection as to the source of your information?

A. It was either a report based on information received from the commander, which was based on information from the engine department, or it may have come direct from the engine department. I don't know just what channel it came through.

Q. But whatever the channel was, it was authentic? A. I have no reason to doubt it at all.

Q. The horse-power and the maximum speed of the "Beaver" on [610—489] her trial trip you got from the blue-prints, did you not?

A. That was from the blue-prints. And I wish to make a correction there in the interrogatories at this time, a mistake which I just discovered to-day for the first time in reading these interrogatories, a

(Testimony of A. J. Frey.)

stenographic error. It says: "Answering to interrogatory No. 1, Claimant says that it does not know the maximum speed of the 'Beaver' about the date of the filing of the libel, but that her speed at her trial at Newport News, in 1910, was 17.6 knots at 86 revolutions and 4,448 indicated horse-power." That is a stenographic error and should read "17.06."

Q. What about the 86 revolutions, is that a stenographic error also? A. No, sir, that is correct.

Q. But whatever the data is, Mr. Frey, it came from the blue-prints? A. Yes, sir.

Mr. McCLANAHAN.—Mr. Denman, you were going to produce those blue-prints.

Mr. DENMAN.—Yes, I know I said I would. I was to have them here this afternoon.

Mr. McCLANAHAN.—Will you produce them tomorrow?

Mr. DENMAN.—Yes, I will produce them tomorrow. They have been in your possession, however.

Mr. McCLANAHAN.—Yes, they were produced here.

Mr. DENMAN.—They were produced here and they were examined by your experts.

Mr. McCLANAHAN.—Q. As I understand it, Mr. Frey, you don't know where the information came from that based the basis of your answer in the original suit, the details of the facts?

A. No, I don't know where they came from.
[611—490]

Q. You did not furnish them at all?

(Testimony of A. J. Frey.)

A. No; that is, they were not furnished by me for that specific purpose. Various data was furnished by us from time to time to the counsel in this case but how that specific information was furnished I don't know.

Q. Oh, that is different; did you furnish the information found in the answer in the original suit, as to the number of minutes that the "Selja" was at a standstill in the water after she had been driven across the course of the "Beaver"?

Mr. DENMAN.—Just read the allegation to him, if you please.

Mr. McCLANAHAN.—You can read it to him if you wish. You will find that on page 2, Mr. Frey?

A. I cannot say whether I furnished that. It was pretty generally understood by all concerned on our side of the proposition, that that was the case. I don't know where whoever drew up this answer got the specific information.

Q. Where did you get the understanding? That is your understanding, is it?

A. It was my understanding that the "Selja" had been stopped for some considerable period prior to the collision, yes, sir.

Q. I am talking about the 5-minute period referred to in the answer; where did you get that understanding? A. Well, I cannot say.

Mr. DENMAN.—What is the 5-minute period you refer to in the answer, Mr. McClanahan? Read it.

Mr. McCLANAHAN.—I will point it out to you; I don't care to read it, my voice is bad: "as claimant

(Testimony of A. J. Frey.)

is informed, and therefore alleges, at least 5 minutes"— [612—491]

Mr. DENMAN.—At least 5 minutes?

Mr. McCLANAHAN.—Yes. Read the last question to the witness, Mr. Reporter; we are being diverted.

(The record was here read by the Reporter.)

Q. You don't know where you got the understanding that the "Selja" had been driven across the course of the "Beaver" and was at a standstill for at least 5 minutes?

A. Where I got my impression?

Q. Yes.

A. I got it first from Captain Lie and secondly from Chief Engineer Eggen.

Q. Oh, that is where you got your understanding?

A. But whether that was the basis of the answer there I am not prepared to say.

Q. I am not directing my questions now to that particular matter, but that is where you got your understanding?

A. That is where I got my understanding, yes.

Q. Did you have the further understanding that at 3 o'clock the "Selja" was proceeding at a speed of 6 knots or more until she was driven forward to a point where she crossed the course of the "Beaver"?

A. Prior to 3 P. M.?

Q. No, that at 3 o'clock the speed of the "Selja" was 6 knots at least until she was driven forward across the course of the "Beaver"?

A. There was a good deal of doubt in my mind as

(Testimony of A. J. Frey.)

to what the speed of the ship was; the captain said it was 6 knots and the chief engineer said it was 3½.

Q. You do not know where the information came from that finally was embodied in the answer?

A. No, I do not.

Q. Your answer also alleges that at 3:10 P. M. the "Selja" was almost at a standstill in the water; did you have that information? [613—492]

A. Well, that was my impression, yes.

Q. Where did you get that impression?

A. From the same source, from the conversation with the captain and the chief engineer.

Q. You mean at the time you had the conversation with Captain Lie on November 23, he gave you that understanding? A. Yes, sir.

Q. Why did you not embody that in this statement, then, that you purported to have made to your stenographer after your conversation?

Mr. DENMAN.—I think it is there.

A. It is in there.

Mr. McCLANAHAN.—Q. It is there?

A. Yes, sir.

Mr. DENMAN.—It shows 3 o'clock and it shows 3:05.

Mr. McCLANAHAN.—Q. Please refer to that portion of the statement, which I now hand you, which covers this particular matter, namely, that at 3:10 the "Selja" was almost at a standstill in the water. That is the allegation of your answer.

A. I refer to the first paragraph of this statement:

"Captain Lie stated that he heard the whistles

(Testimony of A. J. Frey.)

of the 'Beaver' about 15 minutes before the collision; that the 'Selja' at that time was going ahead under about 50 revolutions, approximately 5 to 6 knots, and that about 5 minutes after hearing the 'Beaver's' whistles'—which would make it about 10 minutes before the collision—'the engines were stopped altogether and the ship went ahead under her own momentum.'

Q. That is the statement you refer to as coming from Captain Lie which formed the basis of your belief as to the statement in the answer? [614—493]

Mr. DENMAN.—He has not stated he had any belief.

A. As to my impression that the ship was dead in the water somewhere around 3:10, 5 or 6 minutes prior to the collision.

Mr. McCLANAHAN.—I think that is all.

Redirect Examination.

Mr. DENMAN.—Q. Mr. Frey, don't you recall coming over from my office, either on the way over, or when I was examining Eggen, calling my attention to the fact that he stated to you at some time that the vessel would stop in a minute and a half or two minutes, with a 3-knot speed, after the engines were stopped?

A. Well, I may have, but I do not recollect it now. My impression was that I did not discuss Eggen's statement with you until sometime after that day.

Q. It was either just before going in, or just before the examination of Eggen, or during the examination, that you told me about the time that the vessel would stop in?

(Testimony of A. J. Frey.)

A. I may have, I could not say, I could not recollect it now.

Q. Do you recollect when you gave me a copy of that statement of Eggen's?

A. My recollection is—I don't recollect whether I ever gave you a copy or not, or whether I simply showed it to you some week or two weeks after it was written out, or whether I gave you a copy; that I don't recollect definitely.

Q. Has the San Francisco & Portland Steamship Company any financial interest in the result of this suit?

A. No, we are fully insured, we are 100 per cent insured.

Q. To get the situation straight on the record, the Portland & Asiatic Steamship Company was the charterer of the "Selja"? A. That is correct.
[615—494]

Q. And the San Francisco & Portland Steamship Company is the owner of the "Beaver"?

A. That is correct.

Q. And you serve in the capacity of manager in San Francisco for both corporations?

A. That is correct.

Q. Do you know anything about the drawing or the framing of the first answer filed here on January 18, 1911? A. No, I do not.

Recross-examination.

Mr. McCLANAHAN.—Q. You recognize that as the insured you are under obligations to the insurance company to defend this suit?

(Testimony of A. J. Frey.)

A. To protect the insurance companies?

Q. Yes. A. Yes, that is my understanding.

Q. Just as if you were not insured?

A. Well, no, I don't understand it that way; I understand that we are practically acting as the agents of the insurance company.

Q. You are to protect their interests just the same as if you were not insured, to the same extent?

A. I suppose that is correct.

Mr. DENMAN.—Q. But you have no financial interest in the outcome? A. No. [616—495]

[**Testimony of Carroll C. Dickson, for Claimant.**]

CARROLL C. DICKSON, called for the "Beaver," claimant, sworn.

Mr. DENMAN.—Q. What is your occupation?

A. I am connected with the Pacific Mail Steamship Company.

Q. In what capacity? A. Clerk.

Q. Are you a stenographer as well?

A. Yes, sir.

Q. Do you recollect on the 1st day of December, 1910, taking the dictation of a statement of R. Eggen, Chief Engineer of the steamship "Selja," from Mr. Frey? A. I recollect it.

Q. Do you recall Mr. Eggen being in the office at that time, or at any time prior to that?

A. I recall his being in about that time.

Q. And do you recall the occasion of the dictation?

A. I do.

Q. Did you make that memorandum yourself that is there before you? A. No, sir.

(Testimony of Carroll C. Dickson.)

Q. Will you examine it, please? Did you take that down yourself? A. No, I did not take it myself.

Q. You did not take it yourself? A. No.

Q. Were you present though when Eggen was interviewed in the office? A. I was.

Q. And you recollect the conversation that occurred there? A. Perfectly.

Q. Can you give the substance of it without consulting the memorandum? A. No, sir.

Q. Would the memorandum refresh your memory, if you saw it? A. It would.

Mr. McCLANAHAN.—What memorandum?

Mr. DENMAN.—Q. Did you sign a memorandum as to the conversation? A. I did. [617—496]

Q. Is this it (handing)?

A. This is my signature.

Q. Now, reading the memorandum here—

Mr. McCLANAHAN.—Now, just wait a moment.

Mr. DENMAN.—Q. When was that memorandum taken, if you recollect; how soon after Mr. Eggen left? A. I do not recall.

Q. Was it on that same day?

A. I am inclined to think so.

Q. Do you recollect when you affixed your signature on that, whether it was written up on that day or at a later time?

A. It was written December 1st.

Q. Do you recollect when you affixed your signature there? A. I do not recall, no.

Q. Was it about that time?

A. Yes, it was certainly within a day.

(Testimony of Carroll C. Dickson.)

Q. Refreshing your memory from that memorandum, can you tell us what the conversation was between Mr. Eggen and Mr. Frey?

Mr. McCLANAHAN.—Just a moment; I would like to ask a question or two first.

Q. Without looking at the memorandum, Mr. Dickson, did you make any memorandum of the conversation yourself?

A. I have the salient fact that—

Q. (Intg.) Well, answer my question, did you make any memorandum of the conversation yourself?

A. May I ask what you refer to by a memorandum?

Q. Well, the ordinary understanding of what a memorandum is, a writing of some kind, a notation.

A. Formal?

Q. What do you understand by the use of the word “memorandum”?

A. A memorandum might be notes which would be put in a book; it might be something of this nature, something which is written out on a typewriter, something in the shape of a letter as to [618—497] facts which are not formal, put in a letter say.

Q. That is your understanding of a memorandum?

A. Yes, sir.

Q. Did you make any such?

A. I made some notes, yes, sir.

Q. Where are they?

A. I have them in my possession.

Q. Produce them.

A. Not personally with me.

(Testimony of Carroll C. Dickson.)

Q. Those were notes made by you of the conversation with Mr. Eggen? A. Yes, sir.

Q. You were at the time in the employ of the Pacific Mail Steamship Company? A. Yes, sir.

Q. At the time of the conversation?

A. Yes, sir.

Q. Mr. Frey you understand dictated his version of the conversation to a stenographer—you understand that he did?

A. I heard Mr. Frey dictate the conversation.

Q. You heard him dictate?

A. I heard him dictate.

Q. And after the dictation had been transcribed it was presented to you, was it?

A. It was presented to me as per this (indicating).

Q. And you were asked to put your signature to the bottom of the paper?

A. No, I was not asked to sign it; it was put to me, are these the facts. If you mean asked—was I compelled to sign it, certainly not.

Q. You were not compelled to sign it?

A. Certainly not.

Q. You did not feel that if you did not sign it you would not lose your position? A. Certainly not.

Q. But at the same time, when the paper was handed to you there was a place for your signature at the bottom; the words reading, "I was present when the foregoing statements were made and heard everything except that portion in regard to the steam pressure, covered by lines 5, 6 and portion of 7 of this

(Testimony of Carroll C. Dickson.)

[619—498] memorandum.” A. I signed that.

Q. I say that was on there when it was presented to you to sign? A. Yes, sir.

Mr. McCLANAHAN.—I think we will have to insist on the witness producing his own memorandum of the conversation before we proceed further.

Redirect Examination.

Mr. DENMAN.—Q. You can do that, Mr. Dickson, can you not? A. I can.

Q. By the way, was this indorsement on the bottom in the black type, as distinguished from the other, was that on there at the time the memorandum was first presented to you and you read it over—the indorsement on the bottom? A. Yes, sir.

Q. Now, are you sure as to that? Read it over and see. I am speaking now of the postscript.

A. I would like to amend that, Mr. Denman, and say that what I signed here covers everything in the conversation with the exception of the information contained in lines 5, 6 and a portion of 7.

Q. How did that exception to these lines 5, 6 and 7, come to be in that postscript unless you had read the other matter beforehand?

A. I don't quite catch the drift of that question.

Q. Let me put the question to you again: in the postscript here you say, “I was present when the foregoing statements were made and heard everything except that portion in regard to the steam pressure, covered by lines 5, 6 and portion of 7 of this memorandum”; now, was that on there before you

(Testimony of Carroll C. Dickson.)

had read this? A. These were here in conjunction.

Q. How can you explain the fact that you except lines 5, 6 and 7 regarding the steam-pressure? Had you told anybody regarding that? [620—499]

A. I don't quite understand you.

Q. It says here "except that portion in regard to the steam-pressure, covered by lines 5, 6 and a portion of 7 of this memorandum"?

A. Owing to concentration at the time I did not catch that particular fact.

Q. But you say that this was on here—were you present when that postscript was dictated?

A. No. Mr. Denman, may I say something?

Q. Surely.

A. If you will notice in this, I said I did not do this portion of it, referring to the body of the exhibit; now, if you will look at that carefully you will notice that the type here is different, and therefore I wrote this by myself, this portion here, referring to the postscript; in so far as I knew of all of the features of this, with the exception of lines 5, 6 and that portion of 7, I wrote this myself on a machine I have, which is of a different make from the machine on which the body was written.

Q. When this was first presented to you before you signed it, when this document was first presented to you before you signed it, was that postscript on it or was it put on after you first received the document?

A. After this was turned over to me, because I did this myself.

(Testimony of Carroll C. Dickson.)

Q. You put the postscript on yourself?

A. I put the postscript on myself.

Q. That was at whose request?

A. As I recall it, Mr. Frey's request.

Q. Does the body of that memorandum correspond with your own memorandum as to the conversation? A. I think; I should say absolutely.

Q. You will produce that tomorrow and be here at 2 o'clock, if you will. A. Very well. [621—500]

Recross-examination.

Mr. McCLANAHAN.—Q. Who is the Mr. Frey you refer to as the man who requested you to sign that?

A. May I ask just what you mean by that, who is he privately, or officially, or what? I am referring to Mr. A. J. Frey.

Q. Who is he privately?

A. I am referring to Mr. A. J. Frey.

Q. Who is he privately?

A. A gentleman who lives in Alameda County.

Q. And who is he officially?

A. He is connected with the Pacific Mail Steamship Company.

Q. In what way?

A. An assistant to the Vice-President.

Q. Has he entire control of the office there in which you work? A. No, sir.

Q. Don't you get your orders from him?

A. The officer of that company is the Vice-President and General Manager.

Q. Don't you get your orders from Mr. Frey?

(Testimony of Carroll C. Dickson.)

A. Not exclusively.

Q. When Mr. Frey gives you orders you obey them, do you not, in the line of your work?

A. I carry out the orders of the office, recognizing them as the direction of the head of the office.

Q. Well, don't you recognize Mr. Frey as the man to whom you look to in the office there?

A. Mr. Frey is my immediate superior.

(The further hearing was thereupon continued until to-morrow, Wednesday, July 19th, 1911, at 2 o'clock P. M.) [622—501]

Wednesday, July 19th, 1911.

CARROLL C. DICKSON, recalled for "Beaver," claimant:

Mr. DENMAN.—Q. Mr. Dickson, at the close of yesterday's examination you said you would procure a memorandum of the portion of the conversation that was had between Mr. Eggen, Chief Officer, and Mr. Frey; have you got that memorandum here?

A. Yes, sir.

Q. Just let me have it, please?

A. Yes (handing).

Q. Under what circumstances was this memorandum made?

A. At the time of the conversation referred to that Mr. Eggen had in the office.

Q. And Mr. Frey instructed you to make a memorandum of the conversation, did he?

A. Yes, sir.

Q. You did not get the whole of the conversation in

(Testimony of Carroll C. Dickson.)

the memorandum, did you?

A. No; as I stated, the salient features.

Mr. McCLANAHAN.—I would like to read this into the record.

Mr. DENMAN.—Why not just put it in?

Mr. McCLANAHAN.—We had better read it in. It reads as follows:

“Chief Engineer ‘Selja.’ Dec. 1, '10.

Normal steam pressure 180. At time of collision 160–170. Before 3 p. m. on date collision engines 40 R. P. M. After 3 p. m. 20 R. P. M. which would give Str. 3–3–2 knot speed. Engine stopped 5 minutes before reverse signal given. Vessel picks up speed quickly.” [623—502]

Cross-examination.

Mr. McCLANAHAN.—Q. Mr. Dickson, what is or what was your particular business in the office of the Pacific Mail Steamship Company in December, 1910?

A. A clerk in the office.

Q. What were your duties as clerk?

A. Stenographic work, cable work.

Q. What do you mean by “cable work”?

A. Sending cables on company’s business.

Q. What do you mean by “sending cables”—do you mean going to the cable company’s office with them? A. Coding the cables.

Q. What was your stenographic work—just general stenographic work?

A. General stenographic work.

Q. Was there another stenographer in the office

(Testimony of Carroll C. Dickson.)

also? A. Yes, sir.

Q. Was he or she there at the time of this conversation? A. She took that memorandum.

Q. She took what memorandum?

A. The memorandum that is referred to there.

Q. That was after the conversation, was it not?

A. It was dictated to her.

Q. After the conversation? A. After the conversation.

Q. And after Eggen had left? A. Yes, sir.

Q. I asked if she were there during the conversation? A. I do not recall.

Q. Is it not a fact that Mr. Frey prepared you for this interview with Eggen, forewarned you of it?

A. I gave attention to it so I would recall in case I should be summoned as a witness.

Q. Now, you answer my question, did Mr. Frey not forewarn and [624—503] prepare you for this contemplated conversation with Eggen?

Mr. DENMAN.—What do you mean by “prepare”?

Mr. McCLANAHAN.—The question is not directed to you, Mr. Denman.

Mr. DENMAN.—But I want the witness to have a chance.

Mr. McCLANAHAN.—The witness has not asked any questions about my question and therefore I assume he understands it until he gives me some light to the contrary.

Mr. DENMAN.—I object to the question upon the ground that it is indefinite because it is not stated

(Testimony of Carroll C. Dickson.)

what the word "prepare" means.

Mr. McCLANAHAN.—I will ask the Reporter to read the question to the witness. (Question read.) Don't look at Mr. Denman, he is not going to answer the question, Mr. Dickson.

Mr. DENMAN.—I do not see that the witness is looking at me.

Mr. McCLANAHAN.—He is certainly looking at you and it is known to all persons here that he is.

Mr. DENMAN.—Well, it is in the record now, if you want to have it there.

Mr. McCLANAHAN.—Proceed and answer the question, if you please.

A. What do you mean by "prepare"?

Q. Do you not know what I mean by the use of the word "prepare" in that question? A. No, sir.

Q. Well, let me simplify the question: did he not, Mr. Dickson, have a talk with you about the contemplated interview with Mr. Eggen, before it took place? A. It was mentioned.

Q. What did he say about it?

A. I do not recall.

Q. He told you that he was going to have a talk with a man, did he?

A. I should say no. [625—504]

Q. Who did he say he was going to have a talk with? A. He did not say.

Q. Well, in what way was it mentioned?

A. It was mentioned that there might be a contemplated talk.

Q. And if there was then what,—what part were

(Testimony of Carroll C. Dickson.)

you to play in the transaction?

A. I was to give attention so that I would know in a way what was said.

Q. Then you were acting under the orders of your superior in the part which you played in this conference with Eggen? A. Is that a question?

Q. That's a question.

A. I should say direction rather than orders.

Q. I stand corrected. It was then in furtherance of this direction of your superior at this conference with Mr. Eggen that you made this memorandum of the conversation? A. Is that a question?

Q. That's a question.

A. Please read the question, Mr. Reporter. (Question read.) Yes.

Q. Did Mr. Frey, in giving you the directions, tell you the particular points of importance in the coming conversation that he wanted you to weight your memory with? A. No, sir.

Q. How did you know what was important and what was not important then?

A. Important from whose point of view?

Q. Well, from yours, first. We will go through the whole category?

A. Naturally important from my point of view what appeared to me as being salient.

Q. Now, we will take Mr. Frey's point of view.

A. I don't happen to know.

Q. So what did you ask me for information for as to whose point of view was intended when you only

(Testimony of Carroll C. Dickson.)

had one point of view [626—505] and that was your own?

A. Well, the reason is that I thought perhaps you were referring to your own point of view.

Q. All right, I will stand corrected.

A. Thank you.

Q. Now, Mr. Dickson, how did you know from your own point of view what would be important and what would not be important in this coming conversation?

A. I stated that I took what I considered salient features.

Q. Did you know who Eggen was, this man with whom you were going to connect yourself in the way of a conversation?

A. I was not a part of the conversation.

Q. Well, did you know who the man was? Answer that question. A. Yes, sir.

Q. You knew who he was—Chief Engineer of the “Selja”? A. Yes, sir.

Q. Did you know anything about the “Selja” collision with the “Beaver”—the facts?

A. The facts—how particularly—in a general way?

Q. Generally or particularly?

A. Such as might be currently known around town.

Q. Oh, yes, currently known or noncurrently known. A. Yes, sir, I did.

Q. You knew the facts? A. Yes, sir.

Q. Where did you get the facts?

A. From what I had read on the subject.

(Testimony of Carroll C. Dickson.)

Q. Where did you read anything on the subject?

A. In newspaper articles.

Q. In the newspapers?

A. And, in addition to that, what I had heard of the collision.

Q. From whom?

A. I don't recall; various people. [627—506]

Q. You did not have any conversation with Mr. Frey about the facts, did you?

A. Not that I recall now.

Q. From your point of view why was it important that you should know the number of revolutions the engines of the "Selja" were making before 3 o'clock?

A. That was a thing that the chief engineer particularly mentioned.

Q. Why was it important from your point of view that you should make a memorandum of that fact?

Mr. DENMAN.—He just said because the chief engineer particularly mentioned it.

Mr. McCLANAHAN.—I understood exactly what he said, Mr. Denman.

A. Will you please read the question? (Question read.) As I stated, I considered it a salient point.

Q. From the newspaper information that you had had of the collision? A. No.

Q. Well, from what? What was the source of information that made it a salient point, in your opinion?

A. In the conversation it appeared to me to be one—to be a salient point. May I explain?

Q. Certainly.

(Testimony of Carroll C. Dickson.)

A. If a general discussion was going on and there was some certain fact, some concrete things mentioned, when a concrete thing was mentioned that would be salient from my point of view, and therefore this was a salient fact in this instance.

Q. How did Mr. Eggen's concrete facts appear? What distinguished the concrete facts from the other facts? It was just a general conversation, was it not? A. A general conversation.

Q. Then how was any of it concrete and some not concrete? [628—507]

A. I did not say some was not concrete.

Q. Was it all concrete?

A. I did not say it was all concrete.

Q. Well, answer my question: how was some of it concrete? How did it evidence itself as being concrete?

A. As I said, I put down what I considered salient features. That struck me as being a salient feature.

Q. And you knew nothing about the purport of the contemplated interview at the time you were asked to listen to it?

A. I certainly knew the purport of it.

Q. Who did you learn the purport from?

A. In a general way I—

Q. (Intg.) Who did you learn it from?

A. Mr. Frey.

Q. So he told you, then, in a general way, that he was going to have a talk with Eggen about the "Selja"—"Beaver" collision?

A. He did not say that, no, sir.

(Testimony of Carroll C. Dickson.)

Q. Well, what did he say?

A. I do not recall the phraseology.

Q. What was the generality of it?

A. There might be—there might be a conversation on the matter.

Q. On the matter of the “Selja”—“Beaver” collision? A. On the matter of the loss of the “Selja.”

Q. Mr. Dickson, do you take part in conferences of this kind, or take the part in conferences in the office of the Pacific Mail in other matters than on this particular occasion—do you take the part that you took in this matter?

A. I cannot answer that question directly because I don't know of any parallel case.

Q. Well, this stands out alone in your remembrance?

A. If I had a parallel case I could answer your question directly.

Q. You do not remember ever before being asked to listen and note a conversation that was to take place between Mr. Frey and [629—508] another man?

A. Did you say remember? Is that a question you are asking?

Q. That is a question I am asking you.

A. Please read it. (Question read by the Reporter.) I don't recall.

Redirect Examination.

Mr. DENMAN.—Q. Mr. Dickson, as I understand it, the memorandum signed by Mr. Frey, the one that is put in evidence here, was dictated in your presence

(Testimony of Carroll C. Dickson.)

to another stenographer? A. It was.

Q. And you listened to it at that time?

A. Yes, sir.

Q. And that it was a correct statement except as to the number of lbs. of steam that were referred to there, and as to that you did not recall the statement of Mr. Eggen?

A. I do not recall those as specified in lines 5, 6 and a portion of 7.

Q. But as to the balance of the memorandum, at the time it was dictated, it is correct?

A. Absolutely.

Q. And then subsequently the memorandum was handed to you? A. Yes, sir.

Mr. McCLANAHAN.—That has been all gone over, has it not, Mr. Denman?

Mr. DENMAN.—Q. You looked it over and signed it? A. Affixing the statement there.

Mr. DENMAN.—Now, we offer this in evidence.

Mr. McCLANAHAN.—I object to it as immaterial, irrelevant and incompetent.

Mr. DENMAN.—You brought it out yourself in cross-examination. I am going to put it in.

Mr. McCLANAHAN.—And also on the ground that it is hearsay. [630—509]

The COMMISSIONER.—That will be marked Respondent's Exhibit "C."

Mr. McCLANAHAN.—And on the further ground that there has been no ground laid for this discreting or rebuttal evidence, no foundation laid for it.

"STATEMENT OF R. EGGEN, CHIEF ENGINEER S. S. 'SELJA.'

12/1/1910.

Mr. Eggen stated to me today that prior to 03:00 P. M. on November 22nd, 1910, the 'Selja' had been running under forty revolutions. That at 3:00 P. M. this had been reduced to twenty revolutions, which would give the ship a speed of 3 to 3½ knots. He stated that the normal steam pressure was 180 lbs., but that during the time they were under reduced speed it had varied from 160 to 170 pounds. He stated that the engines were stopped prior to the collision for fully five minutes before the full speed astern signal had been given, immediately prior to the collision. That, as the ship had been going under 20 revolutions prior to the engines being stopped, the ship should come to a dead stop in the water under these conditions within one or one and a half minutes, and that he was satisfied that the ship had been dead in the water at least three minutes or slightly more prior to the time that the astern order was given.

In reply to the query as to how long it would take with the ship dead in the water to get the ship going astern under full speed astern order Chief Engineer Eggen stated that it would take but a very few moments as the ship was very quick to respond.

F/P

A. J. FREY.

I was present when the foregoing statements were made and heard everything except that portion in re-

(Testimony of R. F. Lopez.)

gard to the steam pressure, covered by lines 5, 6 and portion of 7 of this memorandum.

C. C. DICKSON." [631—510]

[Testimony of R. F. Lopez, for Claimant.]

R. F. LOPEZ, called for the "Beaver," claimant, sworn.

Mr. DENMAN.—Q. Captain Lopez, where did you receive your naval education?

A. At the Naval Academy.

Q. How long ago?

A. I graduated in 1879.

Q. And continued in the service of the United States? A. Yes, sir, ever since.

Q. What rank do you hold now? A. Captain.

Q. What seas have you served on, Captain?

A. I have served, I think, on about every sea.

Q. How many years of sea service have you had altogether? A. You mean actual sea service?

Q. Yes.

A. About 22½ years I have been actually at sea.

Q. Have you had any special service outside of the regular naval service?

A. Yes, I was in the Coast Survey for nearly three years, on the survey of South Eastern Alaska, and also as Lighthouse Inspector of the 12th Lighthouse District. That is on the coast of California.

Q. Lighthouse Inspector of the 12th Lighthouse District, which is the coast of California?

A. Yes, sir.

Q. How recently have you served in that capacity?

(Testimony of R. F. Lopez.)

A. About two years ago. I served from 1906 to 1908 as Inspector of that Lighthouse District.

Q. That includes the district of California?

A. Yes, sir, the coast of California, from St. George's Reef to San Diego.

Q. Were you with the fleet that sailed around the world?

A. No. At that time I was Lighthouse Inspector.

Q. Did you sail with the fleet from San Francisco north? [632—511]

A. No, I was not with that fleet at all.

Q. You were telling me yesterday, Captain, of a trip you took into Puget Sound; on what occasion was that? You said it was when you were navigating officer?

A. I was then on the "New York," the flagship of this station. That was in about 1904.

Q. What office did you hold then?

A. Navigator of the "New York."

Q. I want to ask you some questions of a technical but rather elementary nature. Suppose the steamer "Beaver" were sailing into a very heavy head swell, at a rate which in smooth water would take her 15 knots an hour, her draught aft being 18'-6", and her propeller having a radius of 17 feet; a light breeze blowing, not to exceed 5 knots an hour, so that the chief retarding force, if any, would be the force of the swell and the exposure of the propeller; would it be unreasonable to expect that she would lose in the neighborhood of 3 knots in the distance travelled by her in an hour?

(Testimony of R. F. Lopez.)

Mr. McCLANAHAN.—I object to the question upon the ground that the hypothesis has not been proven and not properly stated; on the further ground that the witness has shown no familiarity whatever with the steamer “Beaver.”

A. Yes, that is possible. She could be reduced 3 knots in speed by a heavy head sea and her propeller being out of the water, by a sufficient heavy head sea. Yes, that is quite possible, that her speed might be reduced a matter of 3 knots.

Mr. DENMAN.—Q. Captain, have you been aboard the “Beaver” or the “Bear”?

A. I was on board the “Bear” once in a trip around the bay here, when she took a lot of merchants and [633—512] other people invited as guests. She ran up to Mare Island and back. I think that was when she first arrived from the other coast out here.

Q. Did you examine her carefully at that time?

A. No. I was simply there as a guest. I went over her, naturally, and took a look at her, but I am not familiar with any of her qualities any more than such a general look around would give one.

Q. So that your answer to this would simply be that it would not be unreasonable to find that?

A. No, in general it would not be unreasonable, depending on how heavy the sea was. That is the main point.

Q. And we will presume that the breeze is not more than 5 or 6 knots; such a breeze would not count particularly in the resultant, would it, a 5-knot breeze?

(Testimony of R. F. Lopez.)

A. No. The sea would be the main thing there. It might retard a little.

Q. If the "Beaver" be sailing on a course south 67 east magnetic, with a heavy westerly swell following her, her propeller being the same as in the last general question, and the wind the same, and her engines driven at the same speed, would it be unreasonable to expect that in an hour she would drop a knot and a half in the distance covered?

A. With the same sea, the same heavy sea?

Q. Yes.

A. No. I think that is possible, due to yawing and not being able to make a perfectly straight course. Using the rudder retards the speed of a ship a great deal. The sea would be then about 2 points on her starboard quarter, causing a yaw more or less. That would retard her speed. Of course, I could not say exactly how much, it [634—513] would depend entirely upon the sea. The propeller would race a certain amount, depending on the sea, because it would be thrown out of the water and would work in the air instead of working in the water.

Q. What do you mean by yawing, Captain? What is that a technical term for?

A. For the movement of a vessel; instead of the direct course on which she is heading, the movement would be on the one side or the other, from one side to the other; for instance, she would go off probably to port and then come up and off to starboard again and you have to steady her with the helm in order to keep her straight.

(Testimony of R. F. Lopez.)

Q. And then instead of your rudder being from straight behind it moves from side to side and retards the ship to a certain extent? A. Yes, sir.

Q. Would yawing be occasioned by sailing on such a course, with such a following sea? A. Yes, sir

Q. In going into a head swell, with the log out, is there any variation between the distance shown by the log and the distance actually travelled through the water by the ship; that is to say, will the log over-run or under-run the ship in going into a head swell?

A. In going into a head swell the log would show more, it would over-run.

Q. Is that a general tendency? A. Oh, yes.

Q. Now, reversing the conditions from the last question, with a vessel proceeding with a following swell, and her log out, is there any tendency of the log to over-run or under-run the ship?

A. The reverse would be the case, she would under-run.

Q. Is that a matter of general knowledge? [635—514]

A. That is general knowledge.

Q. In your experience in the Lighthouse service, it has been your business to make a study of fog conditions, has it not?

A. In what way,—the study of fog, do you mean?

Q. Yes.

A. More or less, yes. That would come in under all my sea service; we have more or less to do with fog.

Q. What can you say as to the effect of a dense fog

(Testimony of R. F. Lopez.)

on the direction of the approach of the sound of whistles at sea?

A. The direction from which the sound would appear to come?

Q. Yes.

A. It is very unreliable.

Q. It is very unreliable? A. Yes, sir.

Q. What is the reason for that, Captain Lopez?

A. It is due to the state of the atmosphere, probably a different strata of density, and so forth; just the actual scientific reason, as to just how it works, I cannot exactly explain, but the general impression is it is due more or less to the wind and to the actual state of the atmosphere.

Q. You say the different densities of the fog; do you mean by that that the sound is refracted in a different way in the different densities?

A. Yes, sir, in the different conditions of the atmosphere. It is transmitted naturally through the medium of air.

Q. Would an intelligent captain of 15 years' experience at sea honestly assert that the direction of whistles can be as well determined in the fog as in clear weather?

A. You mean the direction of the sound?

Q. Yes.

A. I should think not. The fog signal in clear weather—

Q. (Intg.) I say the whistle in clear weather.
[636—515]

A. The whistle in clear weather, no, I think not,

(Testimony of R. F. Lopez.)

because the eye more or less aids.

Q. Is it not a matter of universal knowledge at sea that the fog does deflect the sound?

A. Always. It is very unreliable and uncertain.

Q. And that is a matter of universal knowledge, is it not? A. Yes.

Q. What would you say as to the statement of a sea captain sailing his vessel off Pt. Reyes, 24 knots from Pt. Bonita, on a course South 65 East direct for the Light-ship off Golden Gate, on hearing a deep, distant whistle dead ahead, which gradually broadened to about 2 points on his port bow, who said he was not certain whether it was a whistle of an approaching vessel or the whistle from Pt. Bonita 24 miles distant; what would you say as to the reasonableness of such a statement?

Mr. McCLANAHAN.—I object to the question as calling for the conclusion of the witness.

Mr. DENMAN.—This is an expert witness.

Mr. McCLANAHAN.—An expert on experts?

Mr. DENMAN.—Q. (Continuing.) What would you say as to the reasonableness of such a statement?

A. As I understand the question, at that time he was 24 miles from Pt. Bonita and this signal was taken for the fog signal at Pt. Bonita?

Q. Yes.

Mr. McCLANAHAN.—I object to that upon the further ground that it is a misstatement of the evidence. Captain Lie stated that it was a passing thought with him when he heard it, that it might be the whistle from Pt. Bonita.

(Testimony of R. F. Lopez.)

Mr. DENMAN.—Captain Lie stated that he did not know for [637—516] 10 minutes later whether the whistle he heard was the whistle of a steamer or something else.

Mr. McCLANAHAN.—Captain Lie stated that from timing the whistle he concluded it must be the whistle of a steamer.

Mr. DENMAN.—But for 10 minutes after he first heard it he said he did not know it was the whistle of a passing steamer.

Mr. McCLANAHAN.—I object to that because he did not say it was 10 minutes.

Mr. DENMAN.—Well, he mentioned 3 o'clock and he mentioned 3:10. Captain, please answer the question?

A. In my opinion, it is impossible to hear a fog signal a distance of 24 miles. I fail to see how anyone could mistake a signal of a steamer for a signal from a lighthouse because they each have their characteristics which distinguish them, a certain length of blast and certain intervals between. There is no excuse whatever for mistaking the whistle of a steamer for the signal given by one of the aids to navigation.

Q. Is it reasonable to expect that you can hear a fog whistle 24 miles in the fog?

A. I don't think it is possible. Since I have been at sea I never have heard a fog signal at anything like that distance.

Q. What is the maximum distance at which you can recall hearing a fog signal?

(Testimony of R. F. Lopez.)

A. I really cannot say, it varies so. I failed to hear a fog signal within a mile of getting it, and then I have passed it and heard it for four miles after passing it, or for five miles, depending on the direction of the wind or some other unknown condition.

Q. Do you ever recall hearing a fog signal more than 10 miles at sea?

A. No. I never remember having heard one at that distance at sea. [638—517]

Q. What would you say as to the statement of a sea captain with his vessel under the conditions described in the last question who on hearing the whistle ahead blow ten times in ten minutes, was unable to determine until the ten minutes had elapsed that the whistle came from a vessel and not from anything else, his vessel at that time being pointed from Pt. Reyes into the ocean, to the southeast, toward the lightship?

Mr. McCLANAHAN.—The same objection to that question.

A. I fail to see how anything else but a vessel could have been thought of.

Mr. DENMAN.—Q. Would it be reasonable to think of anything else?

A. No, not at all, in my opinion.

Q. What would you say as to the value of whistle bearings from offshore, for the purpose of locating the position of a vessel in a fog? A. Unreliable.

Q. Has this unreliability led to any changes in the methods of giving warnings or advice as to the loca-

(Testimony of R. F. Lopez.)

tion of different places on the coast?

A. You mean as to any other method?

Q. Yes.

A. Yes, the submarine vessel has been put in on the two light-ships on this coast.

Q. Did you put those in? A. I did.

Q. Can you tell us anything as to their method of operation?

A. Yes. These bells—do you want me to describe them?

Q. Yes.

A. The bell is sunk lower down from the ship, about from 12 to 15 feet, and the bell is worked by compressed air; it has the same characteristics, you can make it anything you like, striking seven times in so many seconds. On board the vessel there is a receiver, like a telephone receiver, which leads from a box placed as low as possible, a megaphone [639—518] box down in the bottom of the ship. By holding this receiver to your ear you can get very nearly the direction of the sound. It comes more strongly on the side from which the sound comes. You hold the two to your ear. If you want to get the direction—so as to get the direction of your bell—by bringing the ship up until the sounds are equal, and then looking at your compass, you will find that you are heading very nearly in the direction of the light-ship, or whatever it may be.

Q. Has this method of signalling been found to be successful?

A. Very. Nothing but the most favorable reports

(Testimony of R. F. Lopez.)

are received. It is being adopted in every country. We have fewer out here than in any other part of the world. I think the whole Atlantic Coast now has them.

Q. And these were adopted on account of the failure of the fog signal to work effectively?

A. Yes, sir. It is the only reliable fog signal that I know of.

Q. Would it be anything unusual or unreasonable to discover that the compasses of the steamer "Beaver," sailing on a course South 67 East would have a deviation of 4 degrees easterly?

A. It is quite possible that they might have that, or more. That would depend on how well they were compensated.

Q. Such a deviation is not an unusual thing on a ship?

A. 4 degrees, no. I have seen that. You can reduce that if you want to, but that is not a very great deviation on some points.

Q. You have certain deviations on certain courses, and you have others on others?

A. The deviation varies with every point.

Q. Captain, I asked you to prepare an estimate of rates of speed on the return voyage of the "Beaver"; have you got that [640—519] here?

A. Yes, I think I have. That was as to the length of time, was it?

Q. Yes. Just let me look at the memorandum please. A. Yes (handing).

Mr. DENMAN.—Mr. McClanahan, this is an esti-

(Testimony of R. F. Lopez.)

mate of the amount of time consumed at full speed on the return voyage. You can look it over. She was on the course returning at 4 o'clock P. M. on that day, and reached the light-ship at 5:19. of her reaching the light-ship at 5:19?

Mr. McCLANAHAN.—Where is your evidence
Mr. DENMAN.—It is in the log.

Mr. McCLANAHAN.—I have not seen it in the log.

Mr. DENMAN.—Oh, yes, it is there. But we will produce that testimony later on if it is not already in. My impression is, however, that it is in. At any rate, it will be shown. During that time they stopped to meet several vessels and changed their speed from time to time, although keeping on the same course.

Mr. McCLANAHAN.—I object to that statement as not being shown by the evidence.

Mr. DENMAN.—And this is a calculation by the expert, based on the presumption—that has been shown or will be shown—of the amount of time at which the vessel went at full speed, converting the part speeds into terms of minutes at full speed.

Mr. McCLANAHAN.—I object to the proposed evidence as being immaterial.

Mr. DENMAN.—The materiality will be shown later on. Do you object to the matter being put in in this form, or do you want me to examine the witness in full?

Mr. McCLANAHAN.—I prefer that you should examine him; [641—520] I don't understand it.

(Testimony of R. F. Lopez.)

Mr. DENMAN.—Q. Captain, presume that at 4 o'clock the vessel was on her course at half speed; at 4:07 full speed was rung up, and between 4:07 and 4:12 she picked up full speed; that she continued at full speed until 5:03, when the signal "ahead slow" was given; at 5:04, the signal "stop"; at 5:05, "ahead slow"; at 5:11, "ahead half"; at 5:14½, "ahead slow"; at 5:16½ "stop" to 5:19. It appears that she went seven minutes at half speed—what would be your estimate of that in terms of full speed?

A. That would be the same as 3½ minutes at full speed.

Q. From 4:07 to 4:12 she was being put from half speed to full speed; what would you estimate those 5 minutes in terms of full speed?

A. I think at about three-quarters.

Q. Is that a fair estimate?

A. I think so. I should say that was very fair. That is as near as you can get to it. It might not be absolute but it is very near to it.

Q. And that would give you 3¾?

A. Yes, 3¾. That would be three-quarters of full speed.

Q. And between 4:12 and 5:03 you would have 51 minutes of full speed? A. Yes, sir.

Q. And between 5:03 and 5:11, your vessel goes one minute ahead slow, one minute stop and 6 minutes ahead slow; what do you estimate that?

A. 6 minutes at half speed I have it.

Q. From 5:05 to 5:11 is ahead slow?

A. Yes. She started there from full speed; I take

(Testimony of R. F. Lopez.)

about an average for the whole 8 minutes as about three-quarters speed; it might be slightly less.

Q. Is that a maximum?

A. That is a maximum. I don't think [642—521] it could be possibly more. It would be more likely to be a little less. That would make it practically 6 minutes of full speed.

Q. From 5:11 to 5:14½; you have been going ahead slow at 5:11, and now to 5:14½ you go half speed?

A. I take the average speed then as three-eighths for 3½ minutes.

Q. What would that give you?

A. That would give me a minute and a quarter at full speed.

Q. And from 5:14½, when "ahead slow" was given, to 5:19 when "stop" was given, you continued for two minutes at slow speed—

A. (Intg.) Between half and slow speed.

Q. What did you figure for that?

A. I take three-eighths for 2 minutes.

Q. Which would give you what?

A. Which would give 75 one-hundredths or ¾ of a knot.

Q. Then she stopped at 5:16½ to 5:19?

A. She would be going ahead.

Q. 2 minutes, at the rate of about ⅜ speed, which would be ¾ of a knot at full speed? A. Yes.

Q. Did you compute any progress of the vessel after 5:16½? A. No.

Q. No progress at all after 5:16½? A. No.

Q. Presuming that she is not stopped at 5:16½,

(Testimony of R. F. Lopez.)

but she simply stopped her engines and goes ahead between 5:16½ and 5:19, how much would you add for that amount?

A. She has some power in her; that would be 2½ minutes; you might say she was going one-eighth speed for that time, [643—522] which would be almost unappreciable.

Q. Well, suppose we make it a quarter; that would be maximum, would it not?

A. Yes. For 2½ minutes, that would be 5 halves, at a quarter speed, you might say that she went half a mile before she would stop.

Q. Captain, what would you get then as to the total number of minutes at full speed, between 4 o'clock and 5:19?

A. Well, that would be 66.75 minutes that she was under full speed.

Q. Presuming that her full speed is 15 knots an hour, and that there is no deterrence of the vessel at all, how far would she travel in those 66.75 minutes?

A. That would be 16.8 knots.

Q. Figuring that she had dropped a knot and a half under the adverse conditions we have described on the voyage to the light-ship, how far would she travel in the 66.75 minutes? A. 15.12 knots.

Mr. DENMAN.—You may cross-examine, Mr. McClanahan.

Cross-examination.

Mr. McCLANAHAN.—Q. Captain Lopez, what were the adverse conditions under which you understand from Mr. Denman's question the "Beaver"

(Testimony of R. F. Lopez.)

traveled to the light-ship on this occasion?

A. Traveled to the light-ship?

Q. Yes.

A. That is, before a heavy sea about 2 points on the quarter.

Q. That she had a head sea?

A. No, coming to the light-ship she had the sea on the quarter.

Q. Two points on the quarter?

A. Yes, as I understood.

Q. Starboard quarter?

A. Yes, 2 points on the starboard quarter. [644—523]

Q. That would be one of the adverse conditions?

A. So far as reducing her speed a certain amount is concerned.

Q. How would that reduce the speed, Captain?

A. Causing the vessel to yaw and thereby making her go over a greater distance. If a vessel goes straight ahead on a straight line, and if she yaws from one side to the other, she naturally travels a greater distance to make the distance between the two; and also a vessel yawing that way, it necessitates the use of the helm; by putting the rudder over you have the resistance against the water, which retards her to a slight extent too.

Q. Is that the only adverse condition that you understood was embodied in the question?

A. That is all.

Q. If the "Beaver's" course was set South 67 East Magnetic on her return to the light-ship, and her

(Testimony of R. F. Lopez.)

course was set for the light-ship, this adverse condition that you have referred to would have a tendency to throw her toward the shore from that direct line, from a direct line running from her point of departure to the light-ship. Do you understand what I mean?

A. I understand it. If the man at the wheel did not make up by shifting the helm he might make a course in spite of this yaw, he might make his course by coming up a little to one side and then, allowing being knocked off the other, heading up a little more on the other side. That is the way a course is made under adverse conditions.

Q. That is, he might change his compass course to counteract this adverse situation?

A. I mean if he is given a certain course, for example, and he found he was knocked off a little on one side of that course, then when he brought her back he [645—524] would bring her up a little on the other side.

Q. Change her course a little?

A. Yes, actually changing her course a little; but really trying to make the actual course given.

Q. Trying to make the straight line between the two points?

A. Yes, allowing what he lost on the one side by making up a little on the other. That is where a good helmsman is able to make a good course, whereas a man with poor judgment might lose a lot.

Q. Bearing in mind this adverse condition of the sea, if the course was kept 67 east he would at the

(Testimony of R. F. Lopez.)

end of his run find himself to the left of the light-ship, would he not?

A. The tendency would be that on account of the sea setting him to shoreward.

Q. That is what I thought. Of course, this time of full speed you have given us, Captain, and the distance run, and the speed run, the knots per hour, and so forth, that is simply an approximation?

A. It is merely an estimate.

Q. Based on your best understanding?

A. On my best understanding, yes.

Q. You spoke of a deviation in the compass of the vessel being not unusual when it is 4 degrees from magnetic; you have so stated, have you not?

A. Yes, I have.

Q. And you also stated that the deviations varied according to location?

A. No, the different headings. The deviation is due to the iron in the ship.

Q. If you are on your course, which is an unusual one, you cannot tell the deviation with any degree of accuracy without making a test, can you?

A. Oh, you have determined beforehand for each locality, for instance, for say the coast of [646—525] California, you determine your deviation on each point by what is known as swinging the ship?

Q. You have to go through that?

A. Oh, yes, and then a deviation-table is formed, to which the captain corrects all of his courses. He takes the ship and heads her on each one of the 32 points of the compass, or he may do it on every other

(Testimony of R. F. Lopez.)

point and then interpolate, and then by observation of the sun he gets the deviation on every point from the north all the way around again, and then when he sets his magnetic course he applies that.

Q. But there must be a test before you can tell?

A. Oh, yes.

Q. And if you have not made the test it is merely a guess as to what the deviation would be?

A. It should never be a guess before any vessel goes to sea they determine the deviation and compute a deviation-table. It is only necessary to have another table when you have made a large change in latitude.

Q. So that every master knows beforehand the deviation? A. He knows before he goes to sea.

Q. And if he does not know it, he does not know his business? A. No, he does not.

Q. And he is not navigating properly, is he?

A. No, unless he has determined it before going to sea.

Q. That is true under all conditions of navigation, is it, between one point and another?

A. Yes. The deviation changes with the change of latitude. When a big change of latitude is made, then another deviation-table should be computed, a deviation-table within a certain number of degrees of latitude. [647—526]

Q. If a vessel is starting out from this port on a given course, bound for the north, you think that the deviation of the bridge-compass is definitely ascertained or should be right at the start?

A. Yes, right at the start of the ship.

(Testimony of R. F. Lopez.)

Q. Now, supposing, as in this case, the vessel turns back when at or about Pt. Reyes and makes for return trip to this port, would the captain then test his compass again? A. No, he is—

Q. (Intg.) He is taking another course now?

A. Yes, quite true, but don't you understand he has the deviation on each point? We will say, for instance that the course from here to Pt. Reyes is northeast magnetic—whatever it is; he takes that from his chart, a magnetic course northeast. He looks at his deviation-table and he finds that on the course northeast there are 3 degrees deviation; he applies that to the magnetic course and gets the compass course. If he turns around and comes back southeast—

Q. (Intg.) But suppose he comes back any other course?

A. Well, suppose he comes back any other course, east or west, he picks out that this course is west and then he looks at his deviation-table and he finds what the deviation is on the west and he applies that.

Q. You do not mean to say that that deviation-table made at the start would always apply?

A. Yes, always apply for his run here. Unless he changes his latitude very much that deviation-table will hold for 5 or 6 months. He might swing the ship again when he got a chance. But if he is going to make a very large change of latitude, like running down say to South America, he would on the way down get another deviation-table. [648—527] We are required to do it about every 5 degrees of change

(Testimony of R. F. Lopez.)

of latitude, we make out another deviation-table.

Q. You said that a fog-whistle, in your opinion, was as a bearing, unreliable? A. Yes.

Q. Let me put a case to you and ask you whether that statement would apply to the situation: Suppose you heard a fog-signal say on Pt. Reyes—I will make it applicable to this particular case; suppose you heard the fog-signal from Pt. Reyes on a day when there was a dense fog, $2\frac{1}{2}$ miles, your ship being just a little north of the Point itself, $2\frac{1}{2}$ miles from the Point, and just a little north—

Mr. DENMAN.—You assume that the position of the vessel is known?

Mr. McCLANAHAN.—I am assuming it was $2\frac{1}{2}$ miles.

Q. (Continuing.) You heard the Pt. Reyes whistle clear and distinct; you heard it again in 35 seconds, and you continued hearing it for 15 minutes; do you think that there would be any difficulty under those circumstances, hearing the whistle 35 seconds, in a definite bearing,—I say do you think there would be any difficulty or any unreliability as to the bearing of that?

Mr. DENMAN.—I object to that upon the ground that it assumes that the vessel knows where she is in the beginning, $2\frac{1}{2}$ miles off Pt. Reyes, to the north-erly.

A. Yes, my statement was that I think that the compass bearing or the magnetic-bearing of the fog-signal is unreliable, that is, say a matter of one or two points; for instance, if you heard this sound and

(Testimony of R. F. Lopez.)

it sounded to you about east—northeast say—I say it might easily be a couple of points either way, so far as your trying to get the bearing of that sound over [649—528] your compass is concerned.

Mr. McCLANAHAN.—Q. Suppose you continued hearing it every 35 seconds, would that continued hearing not dissipate to some extent the unreliability of the bearing?

A. Naturally the more bearings you take of this sound probably would in a certain degree eliminate the uncertainty of the direction.

Q. That is the more often you heard it the more reliable it would be?

A. By taking the mean of all these different ones you would get something near it, but as to its being accurate as to direction I consider it very unreliable.

Q. You say you consider it very unreliable?

A. I will say it is considered, that all seafaring men consider the direction of the sound as unreliable in a fog for the purposes of bearing, for the purposes of getting a bearing and determining the position of the ship. It is only approximate.

Q. I want to read to you, Captain, a statement on that subject, and I will tell you who made the statement, and then I will ask you if that would change your broad general statement that all seafaring men agree with you on that proposition. Speaking of the difficulty of locating fog sounds it says:

“I know that this difficulty is made a great deal of among sailors but I have not found that difficulty in locating sound in a fog. I have

(Testimony of R. F. Lopez.)

served a great deal in fleets in my younger days and as you know very well the ships often get scattered, and all that sort of thing. I would hear the whistle of a vessel in a fog and when the fog lifted she would be there where I supposed she was. I can say for myself [650—529] that I do not find that great difficulty in locating sound in a fog which some people seem to find.”

That is a statement made at the International Marine Conference in 1889, by Admiral Bowden Smith of Great Britain. Do you know him?

A. I know of him, yes.

Q. A man of some note, is he not?

A. Yes, that is true, but even that, I do not consider that to the contrary of what I say. That is as to the difficulty of hearing it; I think he refers to the difficulty of hearing it. Sometimes you cannot hear it. My understanding of your question is as to the direction.

Q. He says, she would be there where I supposed she was.

A. But that would be very different from the bearing on the point of a compass to determine your position.

Q. As a matter of fact, Captain, it is generally known that sound can be more distinctly heard and further heard in a fog than in clear weather, is it not?

A. I don't know that to be a fact.

Q. You don't know that? A. No, I do not.

Q. Have you had no experience in that line?

(Testimony of R. F. Lopez.)

A. I never had any information that would determine that accurately so that would make me believe it one way or the other.

Q. Did you *ever* Professor Tyndall's work on sound? A. No, I have not.

Q. Do you know of the experiments that he made off the Dover Coast, in fog? A. I do not, no.

Q. Under the supervision of the British Admiralty? A. No, I have not read it.

Q. You did not know that he stated that sound could be accurately [651—530] located with practice in a fog, and based his statement on the experiments?

A. No, I did not know that he stated that, and if I had read it I should not believe it. I have had so many things to the contrary myself; I could give you so many instances of my own experience.

Q. You stated, I believe, it would be impossible to hear a fog-signal for 24 miles.

A. I say that I have never heard it, nor have I ever heard any man state it during my experience, men whom I have known in the service, that they ever heard a fog-signal for 24 miles.

Q. Have you ever participated in experiments as to the distance sounds could be heard in fog?

A. No, I have not.

Q. You know that those experiments have been made?

A. At various times, yes, but I have never read or known of anything very accurately having been determined about it. I could give you an experience

(Testimony of R. F. Lopez.)

that I had not very long ago in the lighthouse, when I was Lighthouse Inspector; I was coming out of Eureka in a very thick fog, and making down for the lighthouse there; I could not hear the signal; I got within a mile of the light-ship, and I was firmly convinced in my own mind that the captain of the ship was not sounding his fog-signal, and I was prepared to go on board and have him discharged, and just then the fog lifted, and I saw the steam coming out in great volumes from the fog-whistle, but not a sound. I got within one mile and I could not hear it. I was to windward. I passed it and I heard it for 5 miles after I passed it. There was just that little trick there about it that I could not explain. I have had numerous experiences similar to that, and they led me to believe that it is a very unreliable thing. [652—531] You may hear it and you may not. I do not say that every man agrees with me, but my general experience is that every seafaring man I have talked with has had the same experience.

Q. And that is probably one of the reasons, is it not, Captain, that so much caution should be used by seafaring men in navigating their ships in fog?

A. Undoubtedly. The unreliability of it would cause me never to trust to it. It is an aid, but it is not a thing that can be absolutely relied upon.

Q. Captain, I am a little surprised at your statements about the action of logs over-running and under-running under certain conditions. Have you ever made any experiments in the matter?

A. Only just in the natural course of duty.

(Testimony of R. F. Lopez.)

Q. That is, you have taken your observation and compared it with the run of the log?

A. With the run of the log, yes. by going along with the land, we have checked up with the land and have found that sometimes your log would be set home and sometimes over reading.

Q. You attribute that to the sea, do you—that variation of the log from the actual run of the ship?

A. Yes, I attribute that to the ship, for instance, bucking into a heavy sea, and the effect of that on the ship and on the log.

Q. Now, that is what surprises me, Captain; don't you think you may be mistaken about that, and that it is to be attributed to the currents of the ocean and not to the seas and the wind, or to the surface water in which the log floats?

A. No. If you had a current, that would undoubtedly affect the reading of your log running from point to point; but I think that would merely be additional. I think the other has its effect. [653—532]

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